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January 1955

house + home

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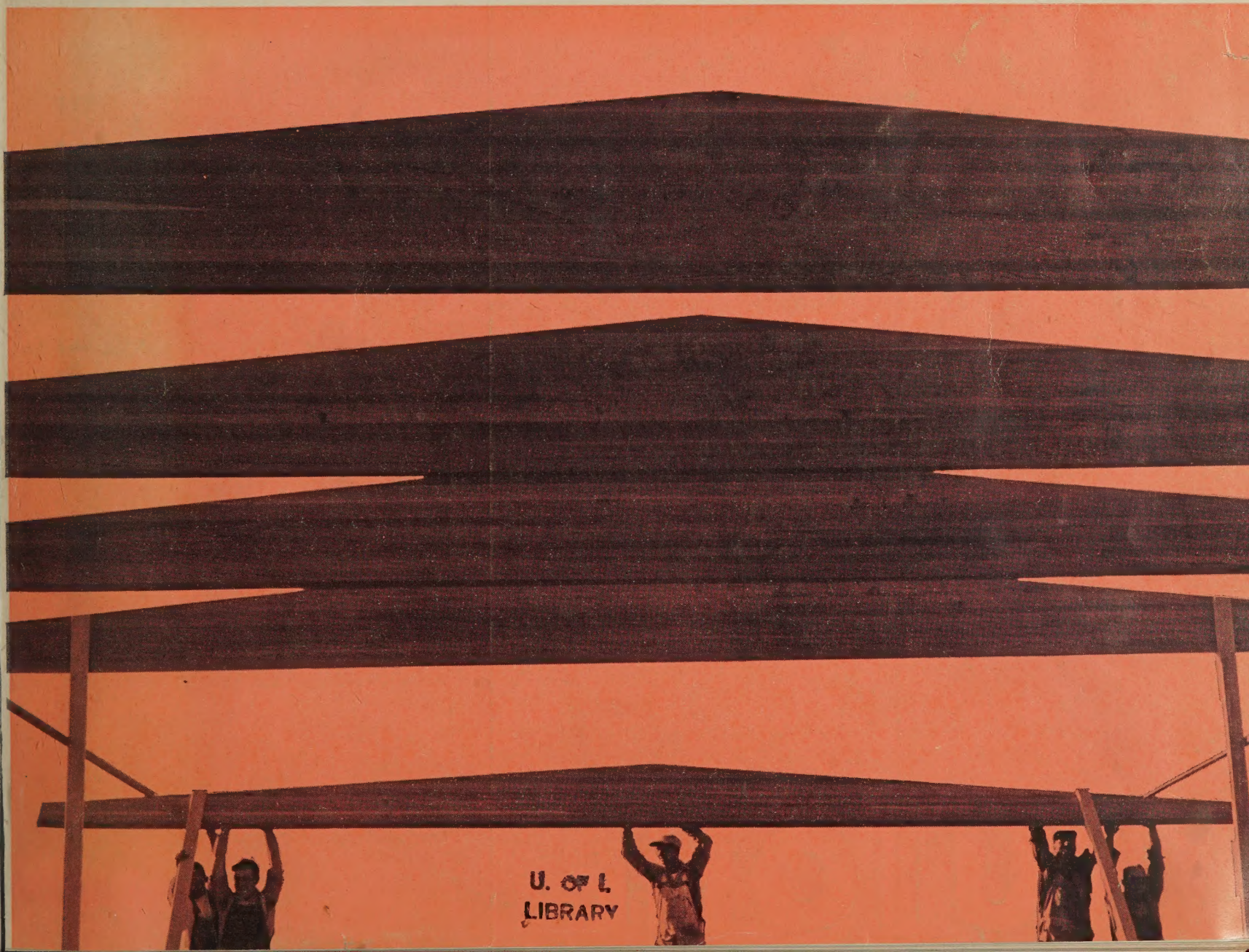
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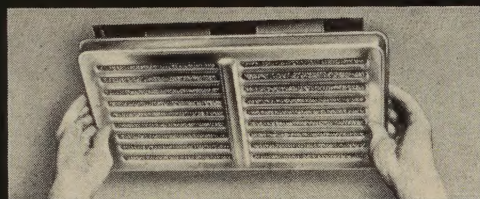
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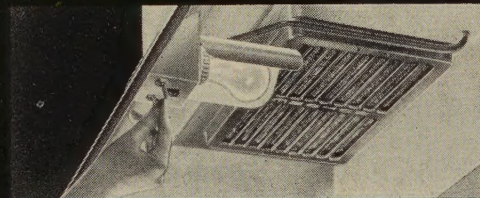
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**The HOOD Traps
Hot, Greasy Odors**

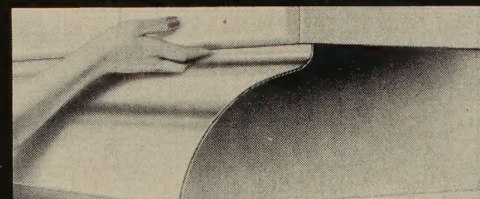
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LOS ANGELES NEWSPAPER ADS ENTICE BUYERS WITH "NO-NO DOWN" OFFERS
The Missing Page In This Volume Are Advertisements

Shortages of gypsum board appear in a few cities, and experts begin to ask if the boom shows signs of getting out of control amid easy money, no-down loans

Treasury policy. Yet the administration's monetary policy has been, and is likely to remain, opposed to hard money and high interest rates. The cry is ample credit—with a weather eye cocked, of course, for any sign of dangerous inflation, at which time a dose of restraint could be administered with dispatch. The administration's money managers had learned some lessons. They had learned that exercising controls on the economy is a more sensitive procedure than they had perhaps thought; and they had learned that if restraint is needed, it should be applied immediately. With the so-called built-in controls better entrenched than ever (10 million

Suburban urge. Everybody knew about the trend to the suburbs. The tough part was determining what sort of vacancy percentages it was causing in the cities as easy purchase terms siphoned renters into homes of their own. Economist Hoadley estimated in a

Gypsum and cement manufacturers, meanwhile, were on an expansion march. US Gypsum Co. planned to spend about \$25 million in expanding production capacity. Lone Star Cement Co. will spend \$14 million for remodeling and enlarging three plants. Universal Atlas Cement, US Steel's subsidiary, planned a new plant in Gary, Ind. with capacity of 3 million barrels a year.

Biggest homebuilders of 1954

**Bill Levitt, with 4,900 reported starts,
keeps his title as the No. 1 builder**

The nation's biggest builders—in terms of volume output—seem to be getting a bit smaller.

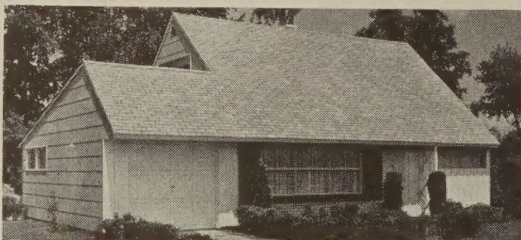
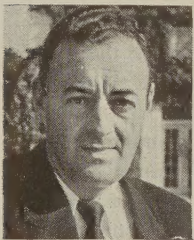
This trend (not unexpected, incidentally) turned up last month in HOUSE & HOME's second annual survey of who started the most houses last year—one- and two-family dwellings, that is, excluding prefabs. Of the eight firms appearing for the second time, five began notably fewer homes in '54. The underlying causes appear to be income tax and, more importantly, the increasing difficulty of assembling large tracts of land where people want to live. The trend confirms and strengthens a recent forecast by H. E. Riley, chief of the Bureau of Labor Statistics' construction division, that the biggest big builders are unlikely to grow any bigger (H&H, Oct. '54, News).

In all, the 14 biggest operatives in HOUSE & HOME's compilation accounted for some 34,125 of the year's anticipated output of 1.2 million units—about 2.8%. Last year, the 14 top builders started 41,473 units, or 3.77% of the annual total—which also suggests the shrinkage prophets are on the right track.

Bustling William J. Levitt, who figures he has put up upwards of 55,000 houses in the postwar housing boom, kept his rank as No. 1 volume builder. Levitt says he began 4,900 more houses last year in Levittown, Pa., where homebuilding spurred by US Steel's new plant is continuing to transform once rural Bucks County into a vast suburb.

Among the top 14, Levitt was the only builder whose output was concentrated on one site. Eight of the others were serving southern California (mostly Los Angeles) where housing developments were springing up so fast that some builders say it is now impossible to find fresh sites even in the broad San Fernando Valley. Three others (Centex, F&S and Earl Smith) remained (as last year) leaders among the new breed of operators who achieve volume by spreading their activity over as many as 14 cities or from one side of the nation to the other. Many of the big 14 will put up higher priced homes in '55.

LIFE: Anthony Linck



1

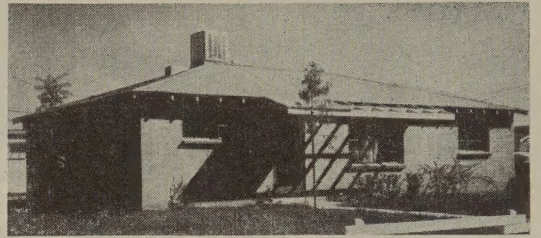
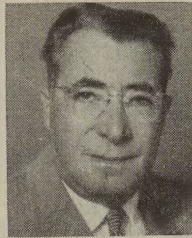
LEVITT & SONS maintains its postwar position as the nation's biggest volume builder. President William J. Levitt (pictured) reported starting 4,900 houses in Levittown, Pa. priced from \$8,990 for a two-bedroom, one-bath house (the Rancher) to \$16,990 for the Country Clubber. Most popular house was the Jubilee (above), a three-bedroom, two-story unit for \$10,990.

Adco Studio



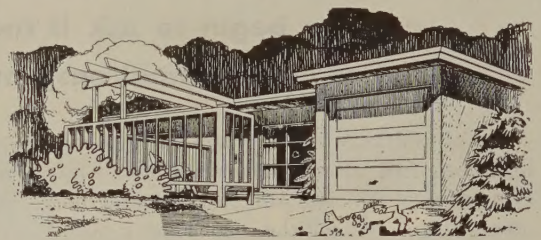
2

MORRIS & ZUCKERMAN: Firms headed by Barney R. Morris (above) and Edward K. Zuckerman started 1,916 houses (above) in southwest Los Angeles (three and four bedrooms, two baths, two-car garage, \$14-17,000), plus 2,000 houses in the city's north-east section (\$11,535-12,085). Probable total for 1955: same as last year.



3

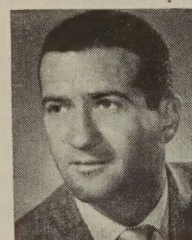
F & S CONSTRUCTION CO., INC. headed by Sam Hoffman, reported 2,858 houses in Phoenix, Salt Lake City and Denver. The company output was 80% devoted to the Clayton (above), a three-bedroom, two-bath house selling for \$7,600 in Phoenix (concrete block), \$10,400 in Denver (brick veneer), and \$9,250 (concrete block, with carport) in Salt Lake City. 1955 plans: 5,500 houses.



4

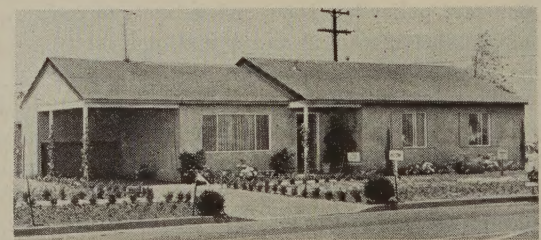
EARL W. SMITH started 2,816 houses in 28 tracts covering a 300 mi. span in northern California. Smith's houses varied in size from 750 sq. ft. to 1,160 sq. ft., in price from \$7,000 to \$10,400. Largest groups: 462 in Montalvin Manor in the San Francisco East Bay, 258 in Salinas, 244 in Fairmede at Richmond. Smith's 1955 plans call for same volume as 1954.

Don Alpern



5

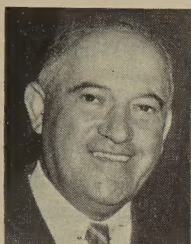
ALDON CONSTRUCTION CO. (Don Metz, pictured) started 2,535 houses in southern California and Arizona: 509 at Lakewood, 624 at Buena Park (1,350 sq. ft., four bedroom with two baths, \$13,725 is pictured), 1,187 in the San Fernando Valley, and 430 with Del E. Webb in San Diego (half credited here to each). Other Aldon principals: Ira H. Oberndorfer, Willard Woodrow.



6

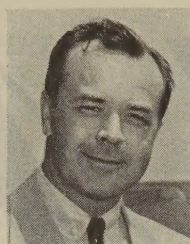
REPUBLIC CONSTRUCTION CORP., with Herbert Kronish at the helm, started 2,479 houses in southern California and Nevada. Best-seller (pictured) was a four-bedroom, two-bath model containing 1,345 sq. ft., priced at \$8,995. Only other '54 models: a two-bedroom house at \$6,995; a three-bedroom at \$7,995. Plans for 1955: 25-40% more output.

Jos. Alpern



BOLLENBACHER & KELTON: Walter Bollenbacher and Louis L. Kelton (above) put 2,187 houses under construction in the Los Angeles and San Diego areas. Most popular: the stucco and redwood Miramar (pictured) with three bedrooms, two baths. Price range for their models was \$11,000-14,000 in San Diego, \$9,000-13,000 in Los Angeles. Programmed for 1955: 2,500 houses.

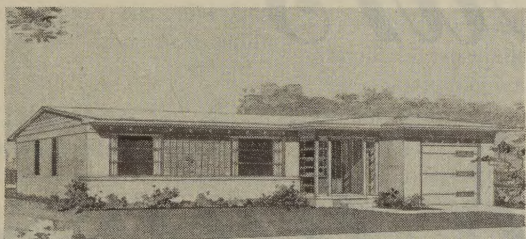
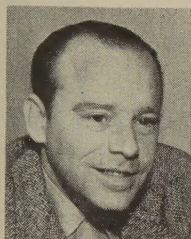
7



MCDONALD BROS., a general partnership of Lloyd L. McDonald (pictured), Bernard A. McDonald and Adrian L. Wilbur, started 1,917 houses in southern California in the \$8,000-9,500 price bracket, all called Highland Village. Most popular: the McDonald (r), 960 sq. ft., \$8,000; the Highlander (l), 1,190 sq. ft., \$9,000. '55 outlook: 3,000 houses, including a contemporary group.

11

S. Haskins



CENTEX CONSTRUCTION CO., INC. (Tom Lively, president) started 2,084 single-family houses in Texas, Illinois and Arkansas, plus 2,352 multifamily units. Sales prices: \$10,000-12,000. Shown above is three-bedroom, one-and-a-half bath, brick-veneer Dallas model (\$11,200). The '55 plans: more houses than '54. Minority housing built in '54, contemplated for '55.

8



DEL WEBB CONSTRUCTION CO. (Del E. Webb, president, pictured), began 1,858 single-family homes, counting 1,000 at the copper mining town of San Manuel, Ariz., half of the 430 built jointly with Aldon in San Diego and 643 elsewhere in Arizona. Model above: \$15,900, 1,540 sq. ft. house at Phoenix. The '55 plans include 1,000 more houses at San Diego, 1,200 in Phoenix.

12

Omer Gray



MILTON KAUFFMAN CONSTRUCTION CORP. (Milton Kauffman, president), reported single-family housing starts of 2,044 in 1954. Sites were: Torrance, West Covina, Norwalk and Whittier, all southern California. Pictured: a two-story, 1,200 sq. ft., four-bedroom, two-bath model sold in Norwalk for \$9,500. Kauffman's plans for 1955 call for 2,500 houses in the same areas.

9

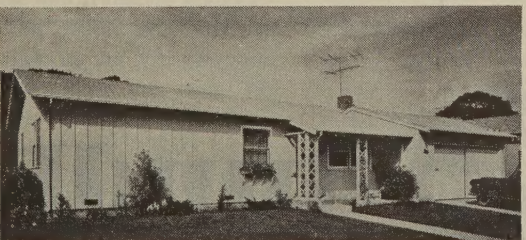
E. Alexander



DILLER-KALSMAN, a partnership of Richard S. Diller (above) and Irving Kalsman, started 1,821 houses in and around Los Angeles. Sunkist Gardens, in the San Gabriel Valley, features three- and four-bedroom houses (pictured) priced at \$11,535 and \$12,085, respectively, in "colonial, modern and transitional styles." The '55 program: 1,551 houses.

13

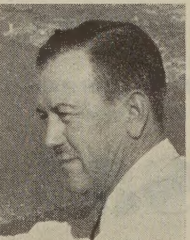
Lagsdin



HOMES BY STERLING (Andy Oddstad, president) started construction on 1,921 houses in Santa Clara and San Mateo Counties, south of San Francisco. Prices started at \$9,950 for a three-bedroom, one-bath house, went up to \$18,000 for a three-bedroom, two-bath split level. The '55 plans: "at least 2,800 houses, priced from \$9,950 all the way to \$20,000.

10

Moulin Studio



HADLEY-CHERRY, INC., (Ray K. Cherry, president, pictured) scattered their 1,594 homes in Los Angeles County. One of their best buys (above): a four-bedroom, two-bath and garage model for \$9,250, sold with conventional financing, move-in fee of \$395. Customers build up down payment during six months of "rent." Plans for '55: about 1,400 houses.

14

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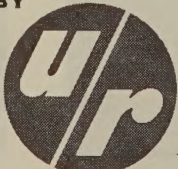
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SIDELIGHTS

Washington inside

Public housing and HHFA officials settled a hassel last month over an interpretation of the 1954 Housing Act that could have stopped public housing dead. The law permits public housing to be built only for families displaced from their homes by public improvements, like expressways, redevelopment, etc. The sticker is that big cities like New York and Chicago can care for all their displacees through normal turnover in existing public housing. Cole's lawyers came up with a liberal interpretation: "Turnover vacancies should be considered as rehousing resources only to the extent they can reasonably be expected to become available" to displacees. This may spare the nation's big cities from being completely cut off from new public housing.

FHA backlog (cont'd)

Except in a half-dozen cities, FHA expects to have its backlog of applications trimmed down to normal again by this month. Between the end of October and Nov. 26—latest available figures—the pile up of insurance requests on new construction was cut from 34,000 to 30,000 units. On existing houses, it was trimmed from 29,000 to 26,500. Next worry: if the spring rush is as big as some FHA offices expect, a new backlog will begin growing unless FHA gets Budget Bureau permission to hire still more people.

Congress may probe VA abuses

Shyster tactics involving resale of VA-guaranteed homes—with the veteran most often left holding the bag—may come up for investigation in the new Congress.

Rep. Olin Teague (D, Tex.), who has proved in past probes that he is no headline hunter but genuinely wants to give the vets a break, would handle the job. Teague, who is in line to head the House veterans affairs committee, recently expressed himself as disturbed over a new wave of complaints that veterans are being induced to go through with loan applications without ever intending to occupy the homes they buy. Glib dealers anxious to obtain favorable financing talk them into deals—sometimes with a bribe—under which the veteran, after financing approval, sells the house and transfers his guaranteed loan to the new buyer. Not only are such deals a perversion of the VA program, but they leave the veteran on the hook. He can transfer his loan, but not his liability; if there is a default, he is stuck. (Only 1.14% of the close to 3 million VA loans outstanding have gone into default.) There have also been reports that operators out for a fast dollar have contacted many a veteran about to default on his loan and persuaded him to hand over the property, GI financing and all. They then rent the property for enough over the carrying charges to net a nice profit, get out from under if there is a lull in the market.

Rent control for HHFA

If war comes, HHFA will take charge of rent control and housing allocation. The new duties were handed to the housing agency in a recent ODM directive on mobilization plans. The broad result is further centralization in HHFA of government authority over housing.

Battle of St. Clair Shores

Detroit homebuilders went to court last month to try to force suburban St. Clair Shores to cancel a 50% increase in building permit fees. The test suit was being watched across the nation by builders facing increased restrictions by communities.

Homebuilding volume had nearly doubled in St. Clair Shores this year and the city, worried over the resulting shortage of community facilities, especially schools, had banned housing construction entirely for three weeks, then compromised by upping permit fees—from \$78 to \$141 on a \$10,000 house, for instance. Three other suburbs promptly did the same.

Said President John D. Harrison of the Builders' Assn. of Metropolitan Detroit, who brought the suit: "We have a responsibility to the families who need housing to keep the cost of new homes as low as possible. Our lawyers tell us that building permit fees cannot be used as taxes in disguise." Even St. Clair Shores' old fees, said Harrison, would bring the city some \$250,000 this year. He said this far exceeded the cost of running the building department and making inspections. Retorted Mayor Thomas S. Welsh: "Some of these big real estate developers may be accustomed to having the federal government subsidize their projects, but St. Clair Shores is too small to do it for them."

Bank, in test case, repays FHA on sour Title I loan

FHA's steady campaign to restore the Title I repair program to the good graces of everyone took a notable turn in a first-of-its-kind case in California.

The Alameda branch of the Bank of America had been sued by the government for not exercising "prudent judgment" in granting a \$2,144 Title I loan to a 65-year-old widow with a total income of \$130 a month. When the woman, who was already paying \$35 a month on a mortgage, defaulted on the repair loan, the government made it good to the bank and then sued. Result: a settlement out of court by the bank for the full amount of the loan.

Concentrated fire. The Alameda incident was the first instance of a lending institution being so directly blamed for a defaulted Title I loan. Till now, the courts had been hammering at the dealers and salesmen. Close to 1,000 of the latter have been subjected to FHA's so-called precautionary measures since April, said the agency, and "several hundred cases" had been referred to the FBI. The precautionary measure technique means simply that FHA refers questionable firm names to lending institutions as deserving of "special scrutiny" before a loan is made.

Meantime, business in the billion dollar home improvement industry—it produces about 16% of FHA's total income—continued good. The number of lenders participating in it had increased, according to Commissioner Norman Mason, since the lending institutions started assuming a portion of the risk last Sept. 1. And the number of loans insured the first ten months of 1954 had dropped only slightly: from 1,559,500 in the same period in 1953 to 1,355,600.

Reni



HHFA conference studies Negro housing problems

An impressively complete collection of leaders of the diverse interests—public and private—concerned with Negro housing problems sat down together for two days last month to try to figure out some answers.

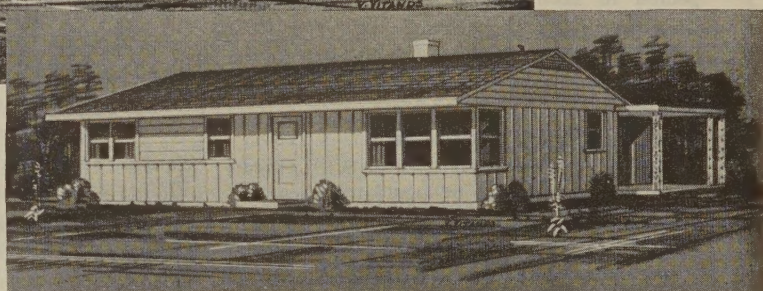
The occasion pictured above was the first meeting of HHFA's new advisory conference on minority housing, called by the housing agency at the behest of President Eisenhower. The 43 participants ranged all the way from the American Bankers Assn., MBA, NAHB, NAREB, AFL, NAHRO and Urban League to the Zion Church. They agreed land acquisition was now the No. 1 problem, mortgage financing No. 2. Spokesmen for Negro groups like the NAACP

left no doubt they think an open occupancy requirement under FHA is the only answer (H&H, Dec. '54, News). Private industry representatives pointed out that this would probably jeopardize future FHA appropriations, since southern congressmen would likely balk.

HHFA Administrator Albert M. Cole, who presided, called the session a "very successful exploration of the problems." He asserted: "A great deal of significant progress in this field is already under way or planned for the immediate future. Complex problems remain which can, and I believe will, be resolved through increased understanding, confidence and cooperation between all groups at this conference."

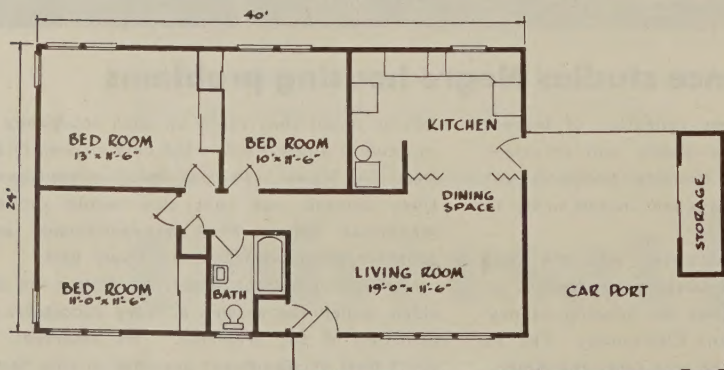
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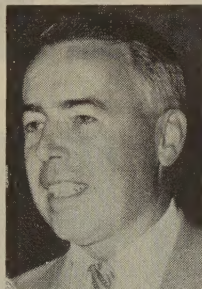
PEOPLE: Bill Divers quits Home Loan Bank to head S&L Foundation; B. T. Fitzpatrick resigns HHFA post

William K. Divers, a Truman appointee and now the lone Democrat on the Home Loan Bank Board, resigned effective Jan. 1 to become president of the Savings & Loan Foundation Inc., a new educational group of federally insured institutions. Board Chairman is **Ernest T. Trigg** of Philadelphia. Headquarters will be in Washington.

Divers said the new organization will neither conflict nor compete with the nation's two savings and loan organizations (which are trying to work out a merger agreement), the US Savings & Loan League and the National Savings & Loan League. Among other things, the two leagues present the industry's viewpoint to Congress and take stands on legislative matters. Divers said his foundation is prohibited from lobbying by its articles of incorporation. Its sole purpose, he explained, will be educational and advertising programs to make the public more conscious of the role of S&Ls. Divers believes it will be the first national advertising program ever undertaken by insured institutions.

A fund of \$750,000 a year for three years has been subscribed by foundation members. There are 3,400 insured institutions. Last month, 1,000 of them had joined the new organization.

Before his appointment to the Home Loan Bank Board in 1947, Cincinnati-born Divers was one of Housing Expediter Wilson Wyatt's top assistants. Earlier, he was Chicago regional director for the National Housing Agency—HHFA's predecessor.



DIVERS

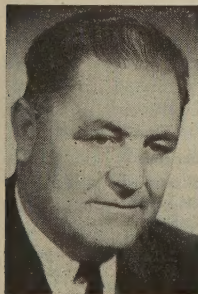
FHA's long search for new executives to bolster its morale and efficiency turned up two new assistant commissioners last month. Named to a policy planning post: **Thomas F. Johnson**, young economist from Alexandria, Va. To direct the agency's insuring operations: **Henry M. Day** of Salt Lake City. The posts pay \$12,000 a year.

Johnson, who is 34, will supervise the program division, including FHA research and statistics. He received his Ph. D. in economics from the University of Virginia in 1949, since then has served as an economist with the Dept. of Agriculture and with the US Chamber of Commerce. While with the Chamber, he edited the monthly newsletter, *Economic Intelligence*, and served as secretary to several subcommittees. He is a Navy veteran.



JOHNSON

Day, a longtime local GOPolitic just turned 50, has been FHA director for Utah since September, 1953. When he took office, the office was processing about 120 loan applications a month and getting around 60% of them cleared in 14 days or less. By the time he left, loan applications had quadrupled, yet 97% were being cleared within two weeks. Day, rightfully proud of the record, used down-to-earth pep talks to increase his staff's activity. "I sought and obtained permission to work the staff overtime. We got some extra help. We met frequently, and all the workers accepted the point of



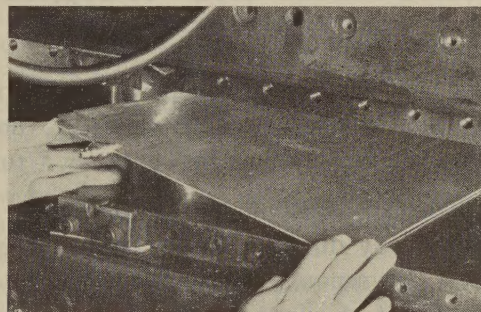
DAY

view that we were performing an important task for the people of Utah. . . ." In his job in Washington he will attack application backlogs on a national basis. His business philosophy: "I have always felt that if you take business in the door, you have an obligation to render a service. That applies whether you are directing a government office or a private business."

HHFA's **B. T. Fitzpatrick**, long deputy administrator but more recently general counsel, resigned last month.

Ever since the GOP took over the White House, job-hungry politicians had been after HHFA Administrator **Albert M. Cole** to oust Fitzpatrick. Cole resisted; he relied heavily on his No. 1 aide's widely respected know how. Careerist Fitzpatrick had been with HHFA since it was created, as deputy administrator since Congress established the job in 1949 and as general counsel since before that. When the FHA scandal broke last April, Investigator **William McKenna** was moved in as deputy administrator. Fitzpatrick remained chief attorney and the principal official technician in charge of drafting the 1954 Housing Act. When Congress, well sold on Fitzpatrick's abilities, put through an amendment sparing him a pay cut, Washington dopesters figured "Fitz" would stay on.

His resignation came suddenly—"for reasons," he wrote Cole, "which you are fully aware of and . . . which I am sure are fully understandable to all who have been associated with me here." He added his "deep appreciation" for the "confidence and trust which you placed in me." Accepting with "regret," Cole praised Fitzpatrick



Tubing blown in solid metal promises cheaper heating

A startling process by which, for the first time tubing is blown inside a solid sheet of metal, promises far-reaching changes in heating and cooling of homes. Olin Mathieson Chemical Corp. took the wraps off the process recently after ten years of experiment and three years of pilot production. This is how it works:

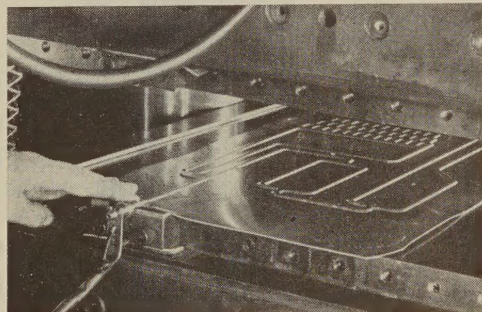
On a flat sheet of aluminum, copper or steel alloy, a secret stop-weld compound (it contains graphite) is painted by silk screen in the desired tubing pattern. The silk-screened sheet is heat-bonded to an identically sized sheet of the same metal—a well-known process in which the pattern is elongated several times. Then the sandwich sheet is annealed, fusing it into a single molecular mass except where the stop-weld pattern lies. Next, it is trimmed to bare the lead-in end of the stop-weld pattern. A needle, like one used to blow up a football, is inserted (cut, above left) and the bonded plate is placed in a hydraulic press. Under 3,000 lbs. air pressure, the painted pattern inflates to become tubing inside a solid sheet (cut, above right).

for "unswerving loyalty and dedication to duty," adding: "Your judgment, based upon your long years of devotion and experience, has been of enormous help to me."

Fitzpatrick's departure, effective Jan. 3, left the top three jobs under Cole vacant. McKenna had not been replaced, and Asst Administrator **Neal Hardy**, another Democratic holdover, quit last summer to join NAHB's Washington Staff.

T. (for Thomas) B. (for Bertram) King, for nearly ten years chief loan guarantee officer for VA in Washington, resigned last month to join National Homes Acceptance Corp. On Jan. 10, King will become No. 2 executive in the mortgage arm of the big prefab firm under Executive Vice President **Frank P. Flynn Jr.** Rhode Island-born King, now 49, began his career as an attorney for National City Bank of New York after winning his law degree at Harvard in 1929. He was executive assistant to the associate general counsel of the Home Owner's Loan Corp. from 1934 to 1939, joined VA at the end of World War II. Under his supervision, GI loans have swelled to account for nearly 25% of the nation's mortgage debt. The 3.3 million individual loans VA has guaranteed on new and existing houses total some \$23 billion. In joining National Homes, King took himself out of the running for the vacant Democratic seat on the Home Loan Bank Board created by the resignation of **William K. Divers** (see col. 1).

CONGRATULATIONS: To **Charles S. Leopold**, Philadelphia heating and air-conditioning engineer, for winning the F. Paul Anderson medal, highest award of the American Society of Heating and Ventilating Engineers, for "outstanding contributions to the advancement of human comfort in heating, ventilating and air conditioning;" to the **Building Construction Employers Assn.** of



Big advantages of the process are cost and speed. Huntly Campbell, general manager of Olin Mathieson's metals division, says it has already cut retooling costs for new refrigerator evaporator plates from \$50,000 to \$50, cut retooling time from six months to one week and increased efficiency of the plates by some 25%. Says Campbell: "This may be the fanciest thing that's happened since the invention of stainless steel." One refrigerator maker is already using the sheet-tubing in 1955 models.

Campbell said MIT scientists, after testing the roll bond process in solar heating, called it the most efficient and cheapest means ever developed for trapping sun heat and carrying it into a house. Campbell reported that MIT obtained 63% of its heat needs for an experimental house with the new solid-tubing. "We could put enough of it on a roof for \$500 to come close to heating a house," he estimated. Considerable redesign of house heating is implicit in Campbell's thinking. Says he: "The place for heating is not the floor, but the ceiling."



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Baltimore	Cleveland	Grand Rapids †	Los Angeles	New Orleans	Providence	Seattle
Boston	Dallas	Houston	Milwaukee	New York	Rochester †	Waterbury

Chicago, for winning the American Trade Assn. Executives' top prize among state and local associations for averting jurisdictional disputes and work stoppages in the building industry (**H. Mayne Stanton**, executive secretary of the Construction Employers, said 230 jurisdictional disputes have been settled without strikes since creation of a joint conference board with AFL trades unions in 1914).

Former NAHB President **Bill Atkinson**, now prospering as a land developer, lumber dealer, and shopping center promoter in Midwest City, Okla., is enlarging the celebrated house on his pony farm to an over-all length of 292' of handsome brick colonial.

Trials of AFL building labor bosses in Illinois and eastern Missouri resulted in two more convictions last month. **Evan Dale** and **James Bateman** were found guilty on two counts of attempting to extort slightly over \$1 million from Ebasco Services, Inc. when the company was building the atomic energy project in Joppa, Ill. Dale, president of the district council of hodcarriers and laborers in southern Illinois, was individually found guilty on another charge of extorting \$7,500 from a subcontractor at Joppa. He has headed Republican labor groups in Illinois for the past 14 years. Bateman, in power for about the same length of time, is business agent for a pipefitters' local in Murphysboro, Ill. The indictments stemmed from an intensive investigation of labor racketeering started in the summer of 1951 by the *St. Louis Post-Dispatch*. Dale and Bateman were the thirteenth and fourteenth to be convicted.

Henry F. Fett, 51, Detroit builder who had played an active part in the growth of NAHB for 15 years, died of a heart attack on Nov. 29 while addressing a meeting of Detroit homebuilders on the coming NAHB convention in Chicago. He



FETT

was chairman of the convention last year and had been named again to manage this year's. Fett went into the real estate business in 1934 (after a stretch in the insurance business) and at the time of his death headed Henry F. Fett, Inc. and the Owen Construction Co. He estimated that since 1939, when he built his first homes, he had put up about 1,000 houses. In 1953, the Detroit builders association chose him to build their annual "Ideal Home" for the local home show. Fett held a number of offices with NAHB, including a director's post, regional vice president, and member of the executive committee.

OTHER DEATHS: **Henry R. Hickman**, 57, treasurer of the B. F. Saul Real Estate Co. in Washington, veteran of both world wars, Nov. 26 in Washington; **Dewey L. Mead**, 56, San Francisco painting contractor, former president of the city's AFL building trades council and long-time member of the city's board of supervisors, Nov. 26 in Chicago; **Mrs. Catherine Baker Sleeper**, 56, wife and close business associate of Architect **Harold Sleeper** (former president of the New York Chapter, AIA), herself an active worker in architects' groups in the city, killed in an auto collision in New Haven Nov. 28; **Morris Macht**, 64, president of the big Welsh Construction Co. in Baltimore, Nov. 29 in Baltimore; **Russell F. Whitehead**, 70, architectural editor and authority on early American architecture, formerly with *Architectural Record* and *Pencil Points* (forerunner of *Progressive Architecture*), Dec. 2 at his home in Albuquerque, N. M.; **Frank Williams**, 89, city planning and zoning expert, author of many books derived from 40 years' in the field, Dec. 5 in New York.

Sweeping Supreme Court decision upholds redevelopment, land seizure for aesthetics

Urban redevelopment has won a far-reaching victory in the US Supreme Court. In its first opinion on the subject, the court not only called redevelopment and slum clearance constitutional in the broadest possible terms, but also approved use of eminent domain to seize private property for "aesthetic" reasons.

The unanimous ruling, written by Justice William O. Douglas, applies specifically to the owners of a small Washington department store who claimed their rights would be violated if the store were wiped out in a slum clearance program projected for the area. They contended it was unconstitutional to include the property in the condemned area because it was not itself in slum condition, and, moreover, because under the District of Columbia Redevelopment Act the land would be redeveloped for private, not public, use.

Question of welfare. Overruling these points, Justice Douglas held that Congress, in enacting the District Act, had made a valid "legislative determination" that it was the "policy" of the US to promote the public welfare in the district by eliminating injurious conditions by all "necessary and appropriate" means. He wrote: "Once the object is within the authority of Congress, the means by which it will be attained is also for Congress to determine. Here one of the means chosen is the use of private enterprise for redevelopment of the area . . . Subject to specific constitutional limitations, when the legislature has spoken, the public interest has been declared in terms well-nigh conclusive. In such cases, the legislature, not the judiciary, is the main guardian of the public needs to be served . . ."

Justice Douglas called slum clearance legislation an exercise of the police powers of the state, ruling that the "more conspicuous examples . . . merely illustrate the scope of the power and do not delimit it. . . ."

"We do not sit to determine whether a particular housing project is or is not desirable. The concept of the public welfare is broad and inclusive. . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled. In the present case, the Congress and its authorized agencies have made determinations that take into account a wide variety of values. It is not for us to reappraise them. If those who govern the District of Columbia decide that the nation's capital should be beautiful as well as sanitary, there is nothing in the 5th Amendment that stands in the way."

Good with the bad. The 8 to 0 decision also dealt with other recurrent legal con-

troversies in redevelopment. Two of them: ▶ "If owner after owner were permitted to resist these redevelopment programs on the ground that his particular property was not being used against the public interest, integrated plans for redevelopment would suffer greatly."

▶ "Property may, of course, be taken for this redevelopment which, standing by itself, is innocuous and unoffending. . . . It is not for the courts to oversee the choice of the boundary line nor to sit in review on the size of a particular project area."

HHFA names first city for urban renewal program

Critics of the administration's urban renewal program (notably labor spokesmen) have harped on the theory that it may bog down because it will take years for all but big cities to develop the "workable program" that is now prerequisite to federal aid.

When HHFA, in mid-November, approved the first "workable program" of a US city, it could scarcely have picked a better community to argue that the critics might be wrong. The approval went to Clarksville, Tenn. (pop. 22,000), some 45 mi. northwest of Nashville. To develop its workable plan for stopping blight, junior-sized Clarksville, which has no planning technicians, hired consulting engineers King & Clark to work out the necessary comprehensive plan to permit federal aid for public housing, redevelopment, FHA. Secs. 220 and 221. HHFA's yardstick for a workable program (which applies nationally) and how Clarksville met it:

1. A comprehensive system of codes and ordinances prescribing adequate minimum standards of health, sanitation and safety under which dwellings may be occupied. Clarksville had all but a housing code and had scheduled this for adoption.
2. A comprehensive general plan for the community including, as a bare minimum, a thoroughfare plan, zoning ordinance and land-use plan. Clarksville adopted a thoroughfare plan and, with technical aid from the state planning commission, is well along on land use and zoning.
3. Studies to show what neighborhoods can be rehabilitated, which should be rebuilt. State planners and the Clarksville Housing Authority helped city officials spot eight likely areas.
4. Administrative authority really to enforce codes and ordinances. Said HHFA: ". . . [These] have been or will be provided."
5. Recognition that more outlays of city cash will be required. Clarksville pledged the needed funds.
6. Plans to rehouse displaced families in "decent, safe and sanitary" quarters. Clarksville will use vacancies in private housing, rehabilitation and has applied for another 100 units of public housing.
7. Wide enough community participation to assure continued support of urban renewal. Among other things, HHFA noted: "Meetings have been held by the housing authority with Negro groups, who expressed full support."

By late November HHFA had only five other applications: Chicago, Somerville, Mass., Portsmouth, N.H., Lewisburg, Tenn. and New Orleans.



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size or oversize, you use the minimum floor space, or, on some models, no floor space at all.

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HOUSING STATISTICS

Population trends show where housing should boom in future

Government statistics are continuing to shed important light on the location and nature of tomorrow's booming housing markets.

In 15 states, according to a recent report of the Census Bureau,* there has been a net civilian in-migration of 25,000 or more between April 1, '50 and July 1, '53. Building economists think these states are most likely to produce the most homebuilding in the years ahead, not only because the in-movement represents a corresponding demand for more housing units, but also because the very fact of net in-movement indicates better than average job or health or retirement opportunities. States involved, and the net in-migration:

California	977,000	Texas	75,000
Florida	429,000	Maryland	71,000
Michigan	185,000	Illinois	53,000
New Jersey	157,000	New York	51,000
Ohio	126,000	Indiana	41,000
Arizona	122,000	Nevada	36,000
Connecticut	98,000	Delaware	25,000
Massachusetts	86,000		

It is unsurprising to find house-hungry California and Florida at the head of the list. In-migration accounted for half or more of their net population gain between 1950 and 1953. But five other states (Connecticut, New Jersey, Delaware, Arizona and Nevada) can also claim this distinction, suggesting that housing will continue to boom there, too, perhaps more than a lot of builders think.

The astonishing mobility of the nation's population—in one four-year postwar period some 78 million Americans, a number equal to half the population, changed residences—has fallen most heavily on the suburbs, as the table below shows. Its compiler, HHFA Planner E. Everett Ashley, suggests the extent of this dramatic metropolitanization of the US population "still needs to be appreciated and then pondered because of its far-reaching economic, social and political implications."

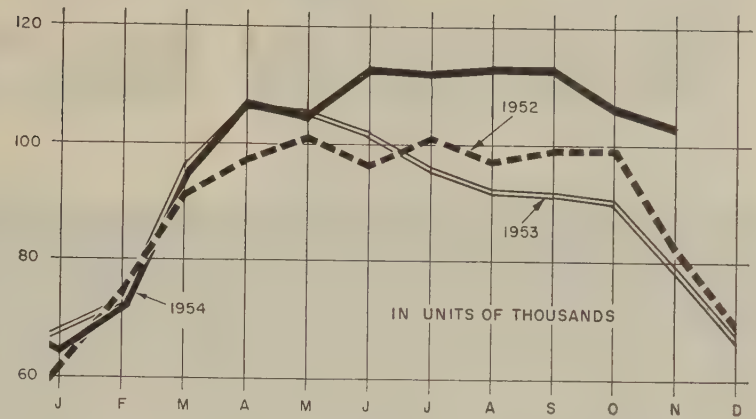
* Census Bureau, Current Population Reports, series P-25, No. 97

NEW DWELLING UNITS IN SELECTED METROPOLITAN AREAS

Standard metropolitan area	Units authorized in 1953			Central city units authorized—% of total	
	Total S.M.A.	Central city	Urban ring	In 1953	In 1950
Atlanta	8,961	3,785	5,176	42%	28%
Baltimore	13,691	4,706	8,985	34	48
Boston	11,781	1,273	10,508	11	15
Chicago	39,936	10,390	29,546	26	37
Cincinnati	5,754	1,613	4,141	28	55
Cleveland	10,667	2,219	8,448	21	18
Dallas	10,230	6,397	3,833	63	73
Denver	8,214	3,726	4,488	45	62
Detroit	30,581	5,531	25,050	18	32
Hartford	3,147	365	2,782	12	17
Indianapolis	5,296	1,764	3,532	33	58
Kansas City	4,942	1,905	3,037	39	32
Los Angeles	93,604	29,439	64,165	31	31
Miami	17,213	3,855	13,358	22	24
Milwaukee	7,773	4,368	3,405	56	54
Minneapolis-St. Paul.....	7,035	2,440	4,595	35	49
New York-Newark-J.C....	74,906	22,186	52,720	30	32
Philadelphia	20,266	6,922	13,344	34	42
Richmond	2,795	650	2,145	23	29
St. Louis	9,776	1,415	8,361	14	22
Salt Lake City.....	2,544	625	1,919	25	53
San Antonio	5,669	5,126	543	90	80
San Francisco-Oakland..	21,812	2,815	18,997	13	17
Seattle	7,077	2,136	4,941	30	44
Washington, D.C.	22,726	5,384	17,340	24	19

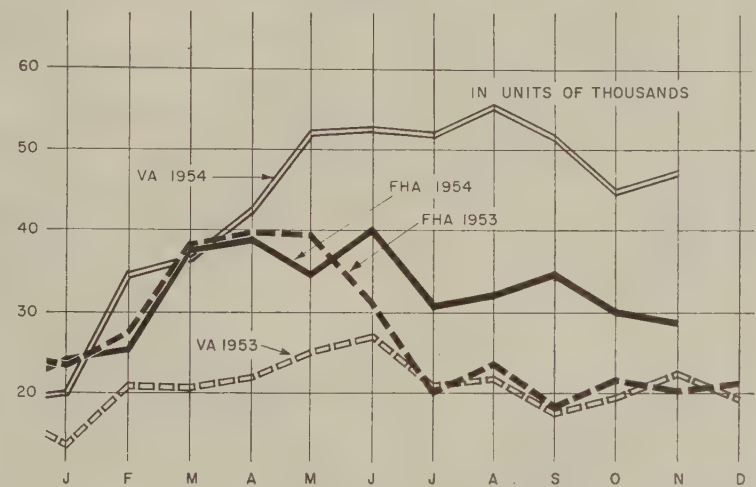
Source: based on US Bureau of Labor statistics

PRIVATE HOUSING STARTS



Private housing starts in November shattered all records for the month. The total was 102,700 units; the old November high was 82,700 in 1950. November public housing: 300 units.

VA AND FHA APPLICATIONS



VA appraisal requests for proposed homes for November 1954 totaled 47,729, more than double the comparable total for 1953. Total new-house FHA applications in November: 28,735.

MORTGAGE MARKET QUOTATIONS

(Originations quoted at net cost, secondary market sales quoted with servicing by seller)
As reported to House & Home the week ending Dec. 17

City	FHA 4 1/2's		5% equity or more VA 4 1/2's		No down payment VA 4 1/2's	
	Origina-tions	Secon-dary	Origina-tions	Secon-dary	Origina-tions	Secon-dary
Boston local	par-101	a	par-101	a	par-101	a
Out-of-state	a	99-par	a	99-par	a	97-99
Chicago	97-99	99-par	97-99	99-par	96-97	98-99
Denver	99-par	99-par	99-par	99-par	99-par	99-par
Detroit	97 1/2-99	a	97 1/2-99	a	96 1/2	a
Houston	par	par	99 1/2-par	99 1/2-par	97 1/2-99	97 1/2-99
Jacksonville†	par	par	par	par	97-98††	97-98††
Kansas City	99-par	par	99-par	par	96 1/2-97	98
Los Angeles	99-99 1/2	99-99 1/2	98-98 1/2	98-98 1/2	97-97 1/2	97-97 1/2
New York	par	par	par	par	par	par
Philadelphia	par	par	par	par	99-par	99-par
Portland, Ore.*	par	par	99	99	98	98
San Francisco	par	par	par	99	95-98	95-98
Washington, D.C.	par	par	par	99 1/2-par	99 1/2-par	98-par

* No market.

* Probable prices throughout Pacific Northwest.

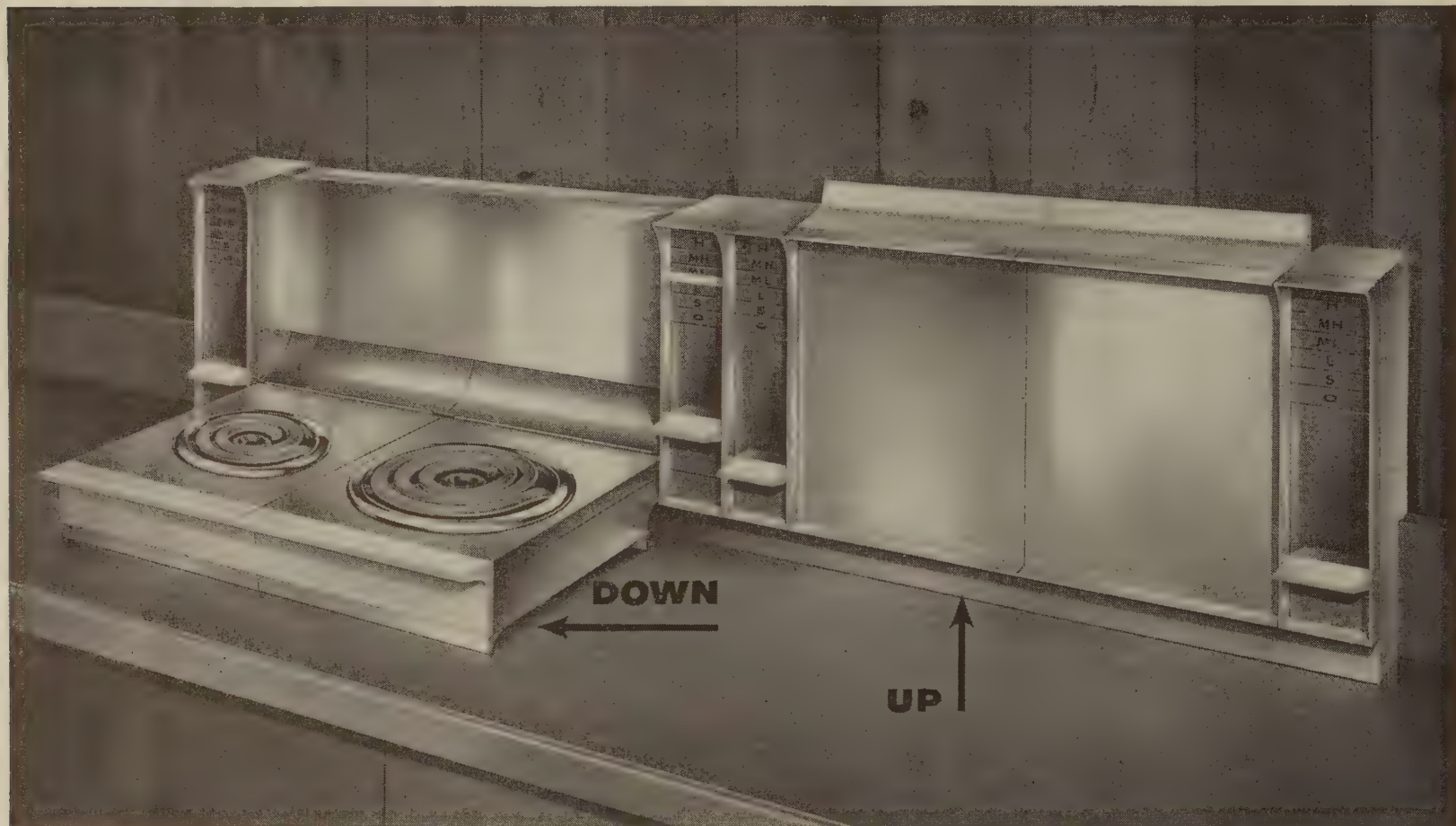
† Probable prices throughout Florida.

†† Without closing costs in cash.

SOURCES: Boston, Robert M. Morgan, vice pres., Boston Five Cents Savings Bank; Chicago, Maurice A. Pollak, vice pres. & secy., Draper & Kramer Inc.; Denver, C. A. Bacon, vice pres., Mortgage Investments Co.; Detroit, Robert H. Pease, pres., Detroit Mortgage & Realty Co.; Houston, Donald McGregor, exec. vice pres., T. J. Bettes Co.; Jacksonville, John D. Yates, vice pres., Stockton. Whatley, Davin & Co.; Kansas City, Byron T. Shutz, pres., Herbert V. Jones & Co.; Los Angeles, John D. Engle, pres., Insurance Funds Mortgage Co.; New York, John Halperin, pres., J. Halperin & Co.; Philadelphia, W. A. Clarke, pres., W. A. Clarke Mortgage Co., Portland, Franklin W. White, pres., Securities, Inc.; San Francisco, William A. Marcus, senior vice pres., American Trust Co.; Washington, D. C., George W. De Franceaux, pres., Frederick W. Berens, Inc.

FRIGIDAIRE ANNOUNCES

Revolutionary New "Built-In" Range Units



Believe it or not, this is the "Top of the Range" for your new built-in kitchens!

This brand new design from Frigidaire and General Motors sets the pace for built-in surface cooking in today's modern homes. Separately controlled "Fold-Back" units use no work surface in up position. Simply pull down individually for cooking.

Lift back up and unit turns off automatically, leaving all of counter top free for other use. Each section contains one 6" and one 8" Radiantube Surface Unit. Needs only a 30" wall surface for each section. Stainless steel, plastic trim.



Frigidaire Giant Imperial Wall Oven with revolutionary new "French Doors"

Here's the first full-size built-in oven—17" wide; 18" high; 20½" deep. Same size, same wonderful baking and roasting features you'll find in Frigidaire's finest ranges. Exclusive new "French Doors" swing out, and back out of way to save kitchen space. No awkward pull-down doors—no groping at arm's length. Give women quick, easy access to food they're cooking. Easy to use, easy to clean. Up-top controls at easy-reach level are out of children's reach, protected from heat when broiling. Cook-Master Oven Control turns oven on, cooks meal, turns oven off—all automatically! Separate frame and oven install easily into cabinet or wall space.



Delegates ponder competition from liberalized FHA terms

Three problems seemed uppermost in the minds of the 3,000 delegates at the US Savings & Loan League's 62nd annual convention in Los Angeles: 1) the threat presented by FHA's liberalized home loans under the new Housing Act; 2) how to broaden the loan associations' investment areas; 3) a desire to achieve independent status for the Home Loan Bank.

Competition from newly liberalized FHA loans was the chief problem, but there was small sign that anyone at the convention was losing sleep over it. A sampling of comment: ▶ "Our big problem will be adjusting to the new Housing Act. We will adjust ourselves to this problem and will solve it as we have all others. It will take a little time." (Julius E. Schroeder, president of First Federal Savings & Loan Assn., Charleston, S.C.)

▶ "It is becoming more apparent with the passage of time that savings and loan people will have to recognize the threat of the FHA and will have to adjust themselves to maintain a competitive position. You can rest assured that we will be competitive." (W. W. McAllister Jr., president of San Antonio Savings & Loan Assn.)

▶ "We won't have any trouble for the next few years. We just have to watch out that we don't talk ourselves into making bad loans, like a 30-year loan. We're well set on the savings end." (F. J. McCue, president of Eureka Savings & Loan Assn., Eureka, Kan.)

Cleared for action. The US League has a proposition before the Home Loan Bank Board asking that S&L associations be allowed to increase their loans from the present 80% to 90% of appraised value. Favorable action on this proposition and also on a request that the loan period be extended from 20 to 25 years was expected. And members will go after legislation to enable them to broaden

their investment portfolios (83% of the industry's \$30 billion of assets are in home loans). Said new President J. Howard Edgerton: "We want to be granted the same privileges as mutual savings banks. We want to be able to invest some of our capital in high-class corporate and municipal securities."

This change, said Edgerton, could be better effected if the Home Loan Bank Board is restored to its former status as an independent agency. (It has been under HHFA for 12 years.) Edgerton and others at the convention pointed out that broadening of investment holdings would be particularly advantageous to the industry if and when the homebuilding boom levels off. "Building might taper off in 1956," said Edgerton, "and that's one reason we want greater investment diversification."

President Edgerton expects to spend more time on league business during the coming year than on his own. A lot of it, judging from the discussion, will be to lobby for legislative breaks, largely in Washington.

More to come. Outgoing President Ralph Crosby, who noted that from the standpoint of flexibility and speed the conventional loan will always be preferred, announced that less than 10% of conventional loans on existing houses made by S&L men in 1953 were for longer than 17-year maturity. And only 7% were as much as 75% of the purchase price of the house. Predictions at the convention were that by 1960 S&L associations, now making 37% of all home loans in the nation, would be making 50%; and their \$30 billion of assets will have increased to \$50 billion.

New vice president of the US League—in line to fill the president's spot next year—is Walter H. Dreier of Evansville, Ind., president of Union Federal Savings & Loan Assn. and former president of the Indiana Savings & Loan League.



J. HOWARD EDGERTON

New league president likes to hunt, fish, fly own plane

James Howard Edgerton, the 46-year-old Californian chosen to head the US Savings & Loan League, is an embodiment of the industry's aggressiveness and energy. Edgerton passed his bar exams in 1930, jumped into the savings and loan business in the mid-thirties, and expanded with the industry. He is president of the California Savings & Loan Assn. in Los Angeles which, with assets of \$115 million, ranks 12th largest in the nation. "People like the way we do business because we give them service," he said recently. "We have been doing a tremendous job of public relations and we are community-minded. . . ."

Edgerton migrated from Arkansas to Arizona as a child, formed an affinity for hunting and fishing which still exists. His family moved to Los Angeles when he was 12 and after a stint at a military school there he entered the University of Southern California (where he was active on the campus newspaper) and was graduated from its law school in 1930. When the law firm he was working for assigned him to reorganize a small savings and loan company—Railway Mutual Building & Loan Assn.—Edgerton obliged and six years later took over active management of the company and gave up the law. Edgerton attributes the growth of the firm (from a mere \$300,000 assets when he took over) to "doing a job of public relations in an area with a heavy residential population." He says: "When new areas developed we didn't wait for the people to come to us. We went to them. We built branch offices and we offered them things like plenty of parking space, a chance to deposit their sav-

(continued on p. 62)

Photos: Vincent A. Finnigan



NAREB PRESIDENT Ronald Chinnock (l) chats between sessions with Ralph Crosby, outgoing president of the US League, and J. Hamilton Cheston (r), president of the National Assn. of Mutual Savings Banks.

“Here’s how we save with Bildrite!”



Alfred Wetor (left) verifies Bildrite cost savings reported on these pages with Insulite representative, Bill Berg. Mr. Wetor is Past President, Milwaukee Builders Association and a Director, National Association of Home Builders. He has been active in Milwaukee's annual Parade of Homes since its inception in 1941. His firm builds 32 to 35 homes a year in the \$17,500 to \$25,000 class.

Save with Bildrite. Free cost-comparison forms and product literature show how. Write Insulite, Minneapolis 2, Minnesota.

Build and insulate with double-duty

INSULITE



The original structural insulation board

INSULITE AND BILDRITE ARE REGISTERED TRADE MARKS.

\$69 per M sq. ft.

says Alfred J. Weter, Alfred J. Weter, Inc., Milwaukee, Wisconsin

"Our crew completes an average 1100 sq. ft. sheathing job in less than seven man hours with Bildrite. The pictures below show how. This fast application is one of the biggest factors involved in our \$69 per M saving.

Lack of appreciable waste and elimination of building paper are a couple of others. But just as important is the quality job that Bildrite gives you.

Tight, weatherproof walls. Strength. Extra insulation value. We paid a premium to get these extras when we first used Bildrite 16 years ago. Now we get them and save, too." So can you. Here's how.



Foreman, Mel Gonwa, measures, cuts and positions Bildrite as the first step in Weter's "team" application system. Bildrite cuts cleanly, quickly, easily with power saw. Virtually eliminates waste.



Crew follows and completes nailing. Using this system Weter's crew regularly sheaths a 1100 sq. ft. job in less than seven man hours. Bildrite goes on fast. It can cut your sheathing time as much as 43% compared with wood.



This small armload of waste is all that remained after this typical Weter job. Compare this tremendous material saving with the minimum of 12% loss figured on horizontal wood sheathing jobs.



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Edgerton is married, has two children, spends a lot of time flying his own twin-engine plane—often to Mexico for a week end of deep-sea fishing. He hunts, rides, golfs and bowls, but gave up tennis after a bout with polio in 1950. A conservative Republican, he is a friend of people like Vice President Nixon, Gov. Goodwin Knight and Sen. Thomas Kuchel (R, Calif.).

Weyerhaeuser report found boosting lumber stocks

Bulls and bears were getting into the pulp and paper business last month, thanks in part to some prosperous predictions contained in a 400-page industry economic report.

The so-called Weyerhaeuser report prepared by the Stanford Research Institute at the request of the Weyerhaeuser Timber Co. (H&H, Nov. '54, News) was being credited by those in the know as urging up share prices of a number of wood processing companies. "There is no doubt at all the report has been something of a catalytic agent," said Fred Nien-dorff of the Seattle *Post-Intelligencer*, dean of the Northwest's financial writers. "Pulp and paper is one segment of the industry that can go ahead without any competition from other materials. . . ."

Last quarter upsurge. Pulp and paper stocks were already in an upswing last September, but their rise since then (when the Weyerhaeuser report appeared) has been striking. Some examples:

► Rayonier, Inc., at around 50 in early autumn (after a heavy gain of 124% for the year) had risen to 60½ early in December.

► Crown-Zellerbach was up 9 points from its September showing of about 52.

► Scott Paper and Georgia-Pacific Plywood made strong rises; a gain of \$32 a share in the first instance (after a two-for-one split) and more than a 100% gain in the second (after the company purchased considerable reserves).

► Weyerhaeuser itself, which in mid-September was selling around 89—up 59% for the year—was up to 107 early last month.

Nuggets of paperboard. The Weyerhaeuser report was predominantly bearish about the future of lumber—17% less in a typical house in 1975, for example—because of predicted competition from other materials. Plywood, hardboard and insulating board will fare much better, and paper and pulp perhaps best of all. The Stanford economists pointed out that 54% of all wood pulp consumed in 1953 went to the paper industry and 33% to the paperboard industry. They expected that total domestic production of paper and paperboard would almost double by 1975 (from 24.4 million tons in 1952 to 46.6 million tons), with consumption of paperboard increasing slightly faster than paper.

The feeling in the Northwest was that the

(continued on p. 66)

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report made Eastern investors newly aware of the area's timber industry and for the first time gave them a scientific diagnosis of where it is heading.

Broker opinion. Harry Grande, a leading Seattle investment broker (chiefly timber), reported that conversations with his clients and colleagues confirm the impression that the report gave the market a nudge. He has had 5,000 digests of the report printed and sent to investment officers all over the country.

Grande quotes Lawrence Arnold, chairman of the Seattle First National Bank, as saying at lunch: "Hardly a week goes by now when somebody from New England or New York representing a pension trust, a mutual fund—some fraternal fund of size—doesn't check in with us and ask entry to, say, one of Phil Weyerhaeuser's chief lieutenants. They go down there, spend the day asking questions and come back saying: 'Well, we ought to have a few thousand shares of that in our portfolio.'"

Edmund F. Maxwell of Blyth & Co.: "There is absolutely no question the report had a huge impression on long-term investors. . . ."

Not all the experts, of course, were as enthusiastic. Lowell Kuebler, investment officer of the Seattle First National, pointed out that pulp and paper activity had been heavy before the report "because new investment has been justified by the facts for a long time now." Kuebler: "The report is still too new to have sunk in much yet, though it probably has, and will, intrigue more easterners in time."

From Harold Cameron, president of both the Pacific Northwest Co. and of Equity Fund, Inc.: "For my nickel's worth, the effect of the report is more in the line of confirming the opinions of professional investors held over a long period."

Industry plans new drive for improved statistics

Rebuffed last year in its efforts to wangle \$1.1 million from Congress to improve the much lamented accuracy of construction statistics, the building industry has begun marshaling its forces for another try.

A mid-November conference at the Commerce Dept. heard Walter W. Schneider, construction statistics chief for Commerce's business and defense services administration, outline this five-point program:

1) More information from primary sources to increase accuracy of the widely quoted figures on expenditures for new construction (Schneider called 35% of the present figures of uncertain value); 2) direct field surveys to get data on "fix-up" expenditures; 3) semi-annual surveys of housing vacancies in metropolitan areas; 4) material use surveys, a topic on which current information is relatively vague; 5) complete revision of the building materials production index to include items not now used, such as window glass, asphalt tile, aluminum products.

(NEWS continued on p. 71)

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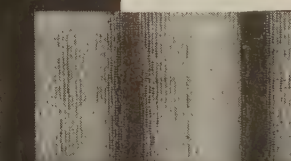
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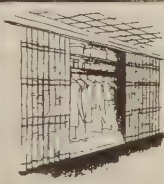
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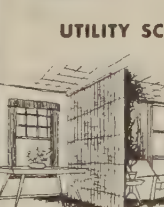
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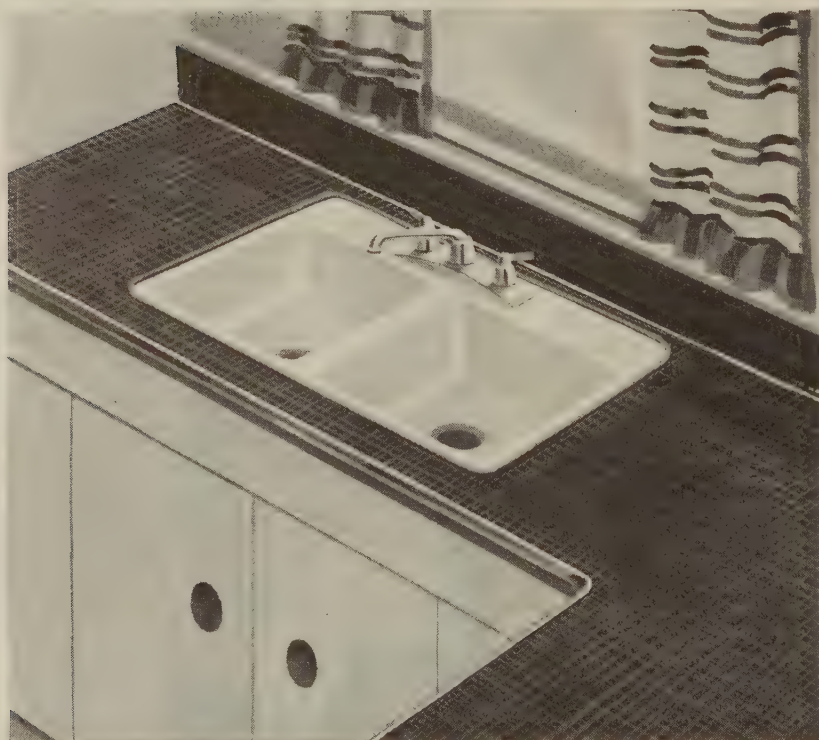
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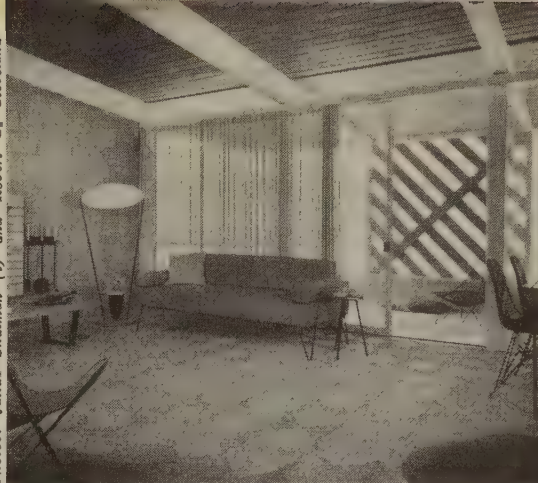
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Photos: Julius Shulman (l) and Robert C. Cleveland



THORNTON ABELL HOUSE (LEFT) AND CAUGHEY & TERNSTROM BEACH HOUSE

BUILDERS AT WORK:

California AIA winners

Four homes received awards—one honorable mention and three citations—from the Southern California Chapter, AIA, in the organization's latest examination of building in the area during the past three years. The four:

► **Thornton Abell**, for a spacious model home with traffic-free living room (see cut, above left) shown at the 1952 Construction Industries Exposition and Home Show of Southern California. (The house, owned by the contractor, was removed after the show.) It was distinguished by its blank wall facing the driveway (for privacy) and by the color integration of the indoor-outdoor living space.

► **Caughey & Ternstrom**, for a 959 sq. ft. weekend beach house (Earl T. Hilburg, owner) on a 35'-wide lot with 3' setbacks (see cut, above right). Brilliant colors are used. The sand patio is protected on four sides from neighbors and wind; the living room is pitched down toward the west and protected to reduce ocean glare. Materials: redwood and concrete block.

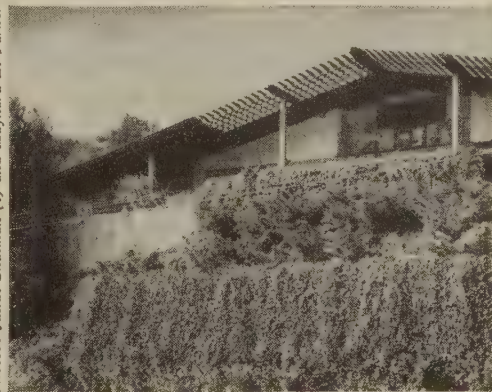
► **Smith & Williams**, an honorable mention—one of the five top awards—for a 1,421 sq. ft. home in South Pasadena (Rene Levenant, owner) on an old grown-over carriage road winding through pine planting (see cut, below left). The house is anchored against the hill at the edge of the old road, and stretches over its lower level. Scrap redwood siding is used as an economy device and to catch sunlit color at joints.

► **Wallace Neff**, for a 4,800 sq. ft. house in Beverly Hills (S. K. Eisen, owner) with three bedrooms and three baths and maid's room and bath (see cut, below right). Neff used white-painted brick and exposed timber roof construction in the home, raised above a heavily hedged approach.

Judges were Architects John Lyon Reid of San Francisco, O'Neil Ford of San Antonio and Paul Thiry of Seattle.



Photos: Julius Shulman (l) and Maynard L. Parker



AWARD WINNERS BY ARCHITECTS SMITH & WILLIAMS (LEFT) AND WALLACE NEFF

The new land developers

The advent of big-money developers into the subdivision field was more and more noticeable.

"Subdivision filings in California continued at a rate unprecedented for the fall months," reported Real Estate Commissioner **D. D. Watson**. September's figure of 289 new tracts was 50% above the count last year. The September showing was due mainly to activity in the Los Angeles area, said Watson, where more than half the state's total was stacked up for the highest monthly total in the history of the office.

Prime example of what was going on was announcement of a no-less-than-colossal project to occupy more than half of the scenic Palos Verdes peninsula about 20 mi. from the heart of **Los Angeles**. The 7,000-acre Rancho Palos Verdes will be developed with an ultimate investment of "hundreds of millions" by the **Great Lakes Carbon Corp.** and the **Capital Co.**, the latter a subsidiary of **Transamerica**. Architects **Pereira & Luckman** have been engaged to work out the master plan.

Sacramento, enjoying such a boom that builders from out of town were beginning to reach out for business there, had its share of jumbo subdivisions. A couple: **Boswell-Alliance Construction Co.**'s plans for 700 three- and four-bedroom homes in the \$10,500 to \$14,500 range designed by **John L. Kies**, of contemporary trend with much color and glass patio doors; an **Artz & Cook** project, using **Cowal** houses, about a mile from the Boswell-Alliance south of the city.

Florida was bucking all the competition from California it could. Late November brought one of the biggest subdivision starts. **Robert W. Gordon** and **H. J. Siegel** showed seven model homes—"Happiness House," "Enchanted Cottage" and "Golden Dream" were among them—in their projected 4,000-home Miramar development in Broward County. The homes will vary from \$6,996 to \$11,450 and from two bedrooms to four on minimum lots of 75' x 100'. Veterans are offered

a no-down-payment deal and nonveterans among the first 100 home buyers will be allowed in on no-down-payment conventionals.

In **Indianapolis**, **National Homes** was working on what would be one of its biggest projects in the nation—\$12 million worth of development, including 1,200 homes. **J. & L. Realty, Inc.** and **Holiday Park Realty Corp.** had set up models.

Kansas City faced up to a couple of medium-to-large developments—a 500-home project by **James H. Stanton Construction** and an 800-house plan by the **Peterson-Byers Development Co.**, both scheduled for first occupancy in early spring.

Architect at work

Architect **Fran Schroeder** of Indianapolis has built up a head of steam in the past few months to bring the contemporary house to his home city. Schroeder's aggressive campaign is one third education (he writes an architectural column for the *Indianapolis Times*), one third on-the-spot design (see cut) and one third a progressive stimulation of builder and lumber customers to carry through on his ideas.

One of Schroeder's houses is the low-pitched three-bedroom pictured below, with attached carport and tall, vertical windows in the living room. A good description: transitional contemporary—and a substantial cut above the run-of-the-



WELL-FENCED CONTEMPORARY

mill builder house. Schroeder's house is built on crawl space and has hardwood floors (no basement because VA would not make enough allowance for it), low-pitched roof and a good job of fencing. An unorthodox aspect: the carport is on the living-room side because Schroeder wanted a sheltered front entrance, figured that the logical place for an entrance from the driveway was the living room, not the kitchen.

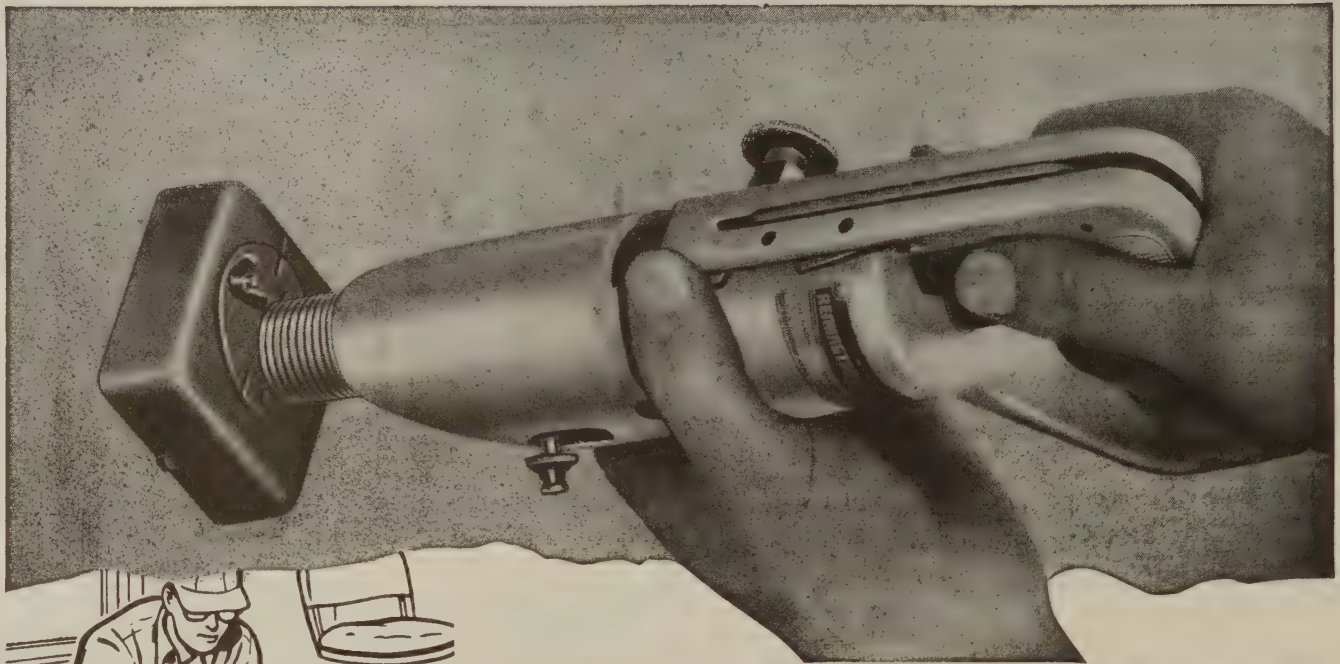
Indianapolis is not currently noted for speedy turnover in new homes (especially contemporaries) and Schroeder's models have moved slowly. But he thinks now he is over the hump. **M & D Builders** is putting up his houses and Schroeder thinks **Mrs. Ted Marbraugh**, head of the firm, will promote his contemporaries. He is also designing for Builder **Bob Wirsching**, who is developing one of the nicest sections of rolling country outside Indianapolis, called **Devon Woods**. Schroeder made contact with both these builders through the **Burnet-Binford Lumber Co.**, which works closely with architects on panelized wall construction. Schroeder uses miniature models of his homes (instead of color renderings) to stir up business, feels that his newspaper columns did a lot to enlighten local builders on the possibilities of contemporary architecture.

Markets to come

Bridge and waterway development that will provide a springboard for homebuilding in years to come was much in evidence last month. In Manhattan, a \$46 million bond issue was floated to finance the **Greater New Orleans Expressway**, a 24-mi. span across Lake Pontchartrain that will open the way for suburban development with quick access to the city, which is now hemmed in on three sides by the lake, the Mississippi and by marshes.

In Marin County north of San Francisco, construction of a bridge linking Richmond with Pt.

(continued on p. 74)



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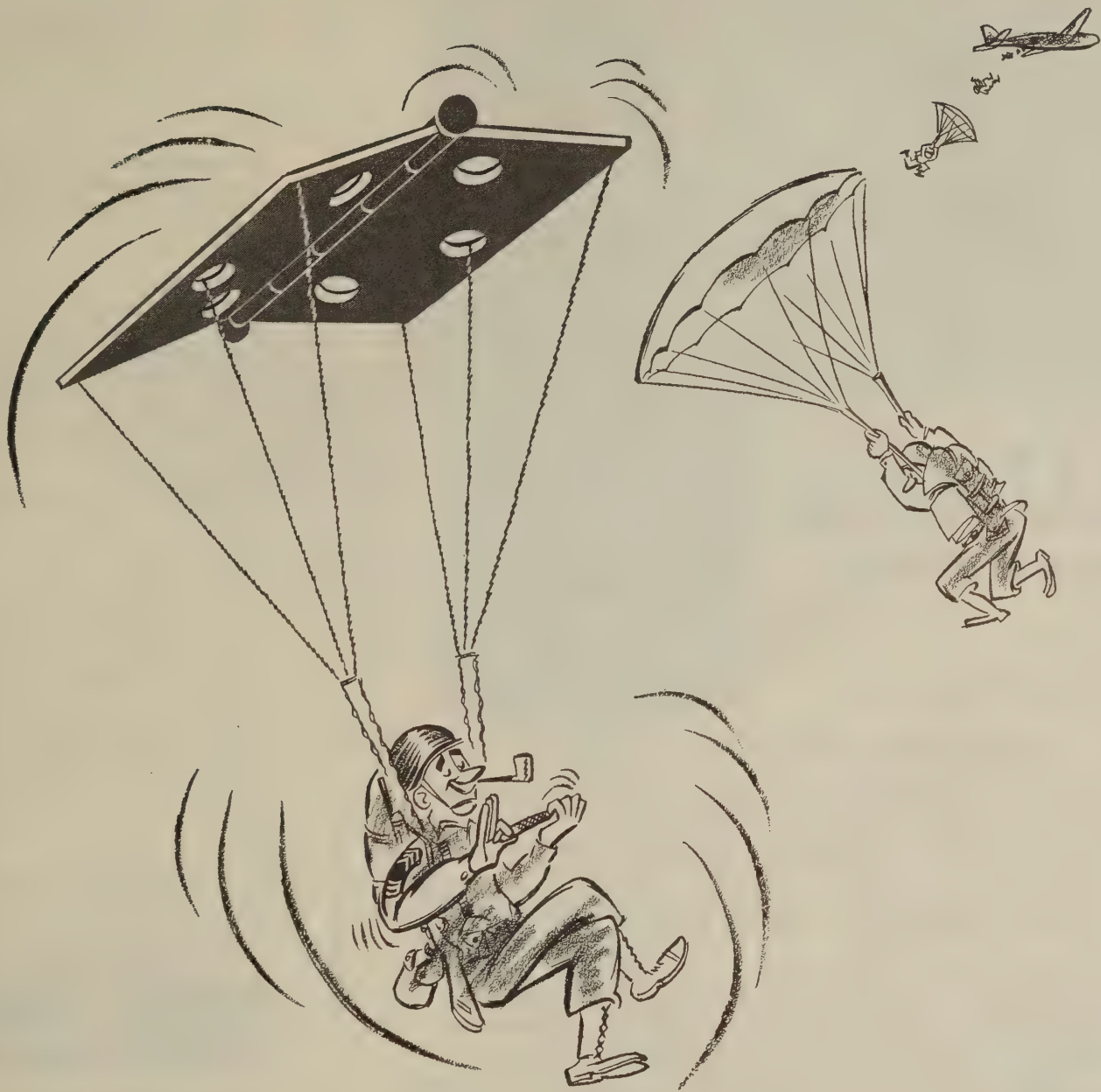
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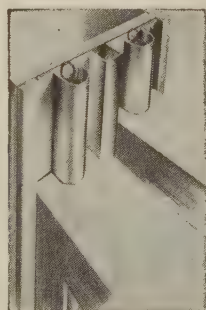
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BUILDERS AT WORK (continued)

San Quentin had already touched off a rash of subdivision announcements. One of the biggest, **Terra Linda** (H&H, Sept. '54)—the first planned US town to have all contemporary houses—signed up Builder **Joseph Eichler**. Eichler Homes bought 37 acres of Terra Linda's 1,200-acre holdings, planned to put up 159 homes priced from \$17,000 to \$20,000. A few miles away, purchase of 102 acres of hilly ranchland and 60 acres of tideland along the edge of San Francisco Bay opened the way for a 400-home development planned by **C. Dudley De Velbiss**. The first 100 homes, priced from \$14,750 to \$20,000 (three and four bedrooms, two baths) were to go up in the spring. Envisaged for the future: 3,000 new homes over a 2,000-acre sector of the Riviera-like Tiburon peninsula.

In Chicago, planning experts figured that the **St. Lawrence Seaway** will create demand for about 20,000 new homes—many of them in the Park Forest-Chicago Heights area. Most of the new industry (and 95,000 new jobs) that Chicago anticipates from completion of the Seaway about 1958-60 is expected to center around Lake Calumet, which is to be Chicago's new port.

Panelized custom models

Last spring Fort Wayne Builder **Robert J. Allen** got excited about the Lu-Re-Co wall-panel system of construction developed by the Small Homes Council at the University of Illinois (H&H, Mar. '54), made up his mind to try it in his own line of homes. Since then he has engaged an architect to bring contemporary architecture to Fort Wayne and has recently panelized a group of custom-built homes.

In addition to his modification of the Lu-Re-Co house (see cut), Allen has now planned 208 houses designed by Architect **Donald Honn** (whom he met with Tulsa Builder **Howard Grubb** at a NAHB directors' meeting) to fulfill his decision that "the time has come to spend money for both

Robert L. Bastress



POPULAR WALL-PANEL HOME IN FT. WAYNE

exterior and interior architectural design." Allen had such success selling a \$20,000 Honn house (snapped up the first hour it was on show) that he feels the present \$10,500 group—including lot and probably including closing costs—will move like hotcakes.

Allen got in with **Lebrato Brothers**, custom builders in the \$18,000 to \$24,000 class, when they asked him if he could furnish them a panelized package house for an already-laid foundation in four days. Allen got the order Thursday afternoon and delivered the goods—all parts except those usually subcontracted for in the area—by Tuesday morning. Since then he has received orders for nine more custom houses, seven of which are sold. They all have different interior plans, vary between 936 sq. ft. and 2,240 sq. ft.

College course in houses

One of the really dedicated building groups in the country is the Los Angeles' Young Builders Council, headed by Big Builder **Reese Myers** (1,200 houses a year). Going far beyond many trade associations' practices of simply distributing information to its membership, the council offers

(continued on p. 78)

about heating



6. SelecTemp saves construction costs. The SelecTemp system requires no special framing for duct work. Steam supply and return lines of small flexible copper tubing are snaked into walls for most direct runs, with minimum of cutting and fitting. Tubing is easily bent, by hand, for streamlining around obstructions. The steel casing enclosing each heater unit is quickly mounted in the stud space.

Unlike systems requiring ducts or large rigid piping, SelecTemp eliminates the expense of chases, framing headers, trimmers or other provisions for concealment or accommodation. Headroom can be kept at a minimum, and the cost of any unnecessary building height is saved.

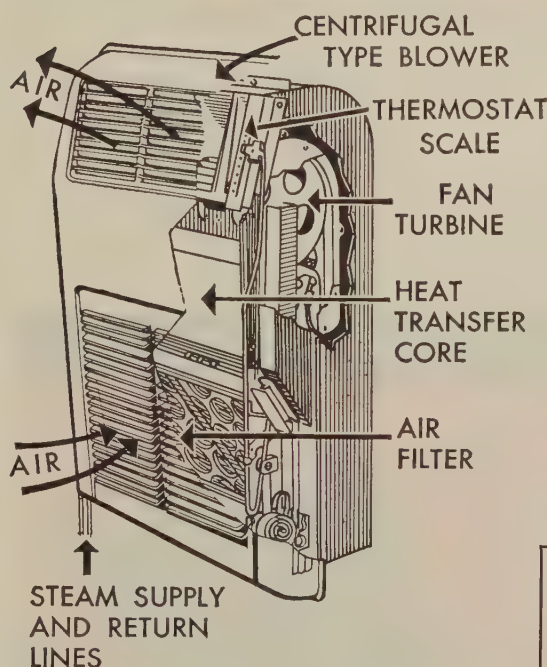
No electric wiring is used, either for room heaters or thermostats. This results in further savings in materials and labor. Boilers are compact and can be located anywhere, on any level. The SelecTemp system is engineered for economical installation, both in new construction and modernization.

7. Heating of remote rooms no problem with SelecTemp. No hard-to-heat rooms. The SelecTemp system is particularly well adapted to modern one-story "ranch" homes, tri-level, or other buildings with extended floor plans. Whether a room is the one nearest the boiler, or farthest away, it receives its full supply of steam, without affecting the supply to other rooms.

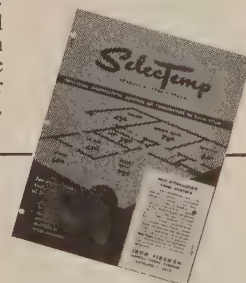
Installation and Operation Is Simple and Practical

Locate boiler anywhere. Automatically fired oil, gas or coal boiler can be installed in the most convenient place. Small flexible copper tubing ($\frac{1}{4}$ inch nominal I.D.) carries steam to each room unit with negligible heat loss. Return lines are $\frac{1}{8}$ inch I.D. tubing. Lengths of copper tubing, easily bent by hand, are snaked into the walls and around obstructions as readily as electric wiring.

Compact, efficient room heaters. Room heater units are only 18 inches high. Three sizes: 6,000; 12,000 and 18,000 maximum Btu output. Each unit contains thermostat, copper heat transfer core, spun glass air filter, and aluminum circulating fan, powered by steam turbine. Turbine rotor and fans are mounted on the same stainless steel shaft, which turns on self-aligning Graphitar bearings, requiring no lubrication. Clean, filtered air is continuously circulated, with both air volume and temperature automatically varied according to room needs. No electric wiring required for thermostats or fans.



Send for this
free booklet



Send for booklet containing complete description of the Iron Fireman SelecTemp heating system, with specifications for builders and architects. Use coupon below.

See for Yourself . . .



You are invited to see SelecTemp units in actual operation at the Iron Fireman SelecTemp display, N.A.H.B. Exposition, Chicago. Space No. 555, Hotel Sherman.

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SelectTemp

MODULATING ZONE HEATING

OIL • GAS • COAL



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In Canada, 80 Ward Street, Toronto, Ontario.

Please send free descriptive booklet on SelecTemp heating.

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Two modern time-saver hinges by McKINNEY



1

The New McKINNEY NON-MORTISE HINGE

The logical, practical and proved non-mortise hinge to use in modern home construction. Makes door hanging speedier and more economical—and gives complete satisfaction.

8 BIG QUALITY FEATURES:

1. Heavy $\frac{1}{8}$ " shoulder—extra supporting strength
2. E-Z-Out Pin—removed with the flick of a screwdriver
3. Non-rising Pin—stays in place when door is hung
4. Heavy Gauge—made to safely carry a door $1\frac{3}{8}$ " thick
5. Staggered screw holes—regular drilling—won't split door
6. No special tools needed—screwdriver does the job
7. No Mortising—doors hang 3-times faster—no marring
8. Self-aligning—easy to use—no measuring or chiseling

Available in the popular $3\frac{1}{2}$ " size... choice of three finishes: dull brass plated, bright nickel plated, and bonderized prime coated.

• SAVE TIME • SAVE MONEY • HANG DOORS 3 TIMES FASTER

2

... and for those who want to mortise, McKINNEY

ROUND CORNER BUTTS

permit the use of "router"... for quicker, easier mortising. Precision made, $\frac{1}{8}$ " radius round corners, E-Z-Out pin, button lips, and staggered screw holes. Sizes $3" \times 3"$, $3\frac{1}{2}" \times 3\frac{1}{2}"$, and $4" \times 4"$, all finishes.

... Order these McKinney Hinges from your building supply or builders hardware distributor today.



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Booth
No. 348
Conrad
Hilton Hotel

BUILDERS AT WORK (continued)

what is practically a college course in home-building. Its twofold intent: to teach young builders how to profit from past errors and to let them cash in on the experience of others.

The council's membership is not all young and is not limited to builders. It includes architects, land planners, title insurance men and building suppliers. About 60% of membership is from the Los Angeles Home Builders Institute, NAHB affiliate. After canvassing members for subjects they want to know more about, the YBC president and executive board select 12 subjects to be "taught" in a year of monthly meetings. The



MYERS



SLIPHER

teachers are the council's members and/or outside experts. Sample subjects: construction shortcuts, land purchasing, FHA and VA paper processing, title insurance. **Dave Slipher**, who is Fritz Burns's technical chief, is educational director for the council and helps keep the organization as live as a wire. More than 125 members and guests were present at a recent meeting on planning a large subdivision, even though the meeting had been postponed one week and publicity was released late. One member's simple analysis of the large turnouts: "I don't know of a college in the country that teaches as much." Why do big builders like Myers take an avid interest in YBC? Myers: "It's a civic duty. Why do I belong to Kiwanis?"

New slants on lumber

John Reno, utilization director for the Pacific Lumber Co. of Scotia, Calif., thinks it is time to simplify lumber buying for the consumer by establishing uniform grade names. Instead of such terms as select merchantable, No. 1 boards and utility, he suggests a numerical classification for appearance lumber (or a numerical plus alphabetical classification) and for framing lumber a system defining the grades by their stress value. . . . Lumber Dealer **Bob Ebenreiter** of Sheboygan believes the essence of his success has been to show customers: "This is how it looks." A two-bedroom, gable-roofed demonstration home he constructed at his sizeable plant site a few months ago has attracted 30,000 people. Since the population of Sheboygan is 42,000, Ebenreiter rightly concludes that visitors are coming in from Milwaukee and elsewhere, adds that his guest book "looks like the register of the Hotel Astor." The purpose of the demonstration—Ebenreiter's builder customers shepherd anybody through the home who wants to go—is not to sell the model, but to show prospective buyers what they can get in a home. Each room has a different kind of flooring, for example, and there are two kitchens. A dozen people have asked for the 1,100 sq. ft. house, however, and in such instances Ebenreiter assigns his two designers, **Earl Galbraith** and **Steve Herm** (they are architects, but not yet registered in Wisconsin), to run up plans for the demonstration house as is, or in a desired modification. He then steers the customer to a contractor. Ebenreiter has decided the success of the present model warrants holding it over till spring,

(continued on p. 83)

BUILDERS AT WORK (continued)

when he plans to put up one of different design. Sales of his Ebenreiter Lumber Co. are divided half-and-half to contractors and the general public; the Ebenreiter Woodworking Co. supplies architectural woodworking to the Midwest.

More planned communities

Big developments were mushrooming:

► **Don M. Casto Sr.** announced work would start at once on a five-year, \$20 million project on a 140-acre tract north of Columbus. Included: 2,000 apartments, a medical center, hotels, office structures and—later—a small shopping center. Developing corporation: University City Inc.

► Builder **Sam Hoffman** of Phoenix (F&S Construction Co.) invaded the eastern seaboard. He plans to build 4,000 homes in Upper Marlboro, Md., as the first part of a \$60 million development in Maryland's Prince George County. Included: churches, shopping center, schools.

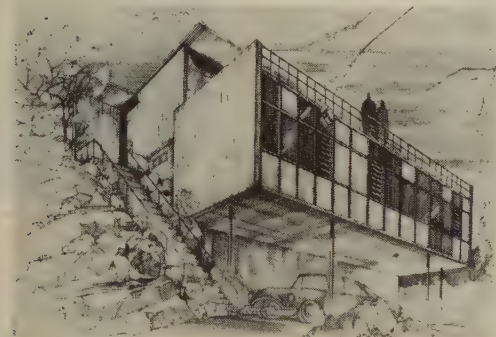
► Farmers Branch, a 100-year-old Dallas suburb, learned that **Cato Corp.** of Dallas will erect a \$30 million planned community on a 500-acre tract. It will be called Valwood Park, have 2,000 homes, shopping center, parks, churches, schools. Sitework was underway on the first 400 homes.

► In one of the biggest realty deals in Milwaukee County history, **Wisconsin Realty Co.** signed up for 185 acres of Greendale (recently sold by the US), planned 325 homes. **Robert Rasche** will do the design. Landscape architect: **Robert Boerner**.

Homes for a by-passed hillside

Along the mudflat eastern edge of San Francisco Bay, close by Golden Gate Fields race track, rises a great, eucalyptus-mantled dome of rock and clay called Albany Hill. Although streets were carved into its steep east side during WPA days, Albany

J. Black & Assoc.



HOUSE FOR A CALIFORNIA HILLSIDE

Hill had remained undeveloped while the postwar housing boom filled up the surrounding fields.

Last month, work was about to begin on the inevitable development of Albany Hill into a residential community. **Hill Aire Homes, Inc.** (**O. A. Goth**, president; **W. D. Hammond**, vice president) was planning to put 60 single-family homes (see cut) on the bottom slopes, some 80 to 100 apartment units on the middle slopes and a 200-unit luxury hotel (if it can get a zoning variance from the city of Albany) on the summit.

Plans by Architects **Bernard J. Sabaroff** and **Harold C. Dow** will keep excavation for the houses to a cost-saving minimum by setting back the second story to conform to the land contour.

"We feel the public is willing to forego the pleasure of level living to gain spectacular views from the hill," says Dow. The 1,260 sq. ft. house (plus 400 sq. ft. of deck, 400 sq. ft. of patio and 400 sq. ft. of carport) will sell for about \$20,000. Dow expects one construction detail to be a cost-saver: the shed roof will be laminated 2 x 3s with the lower edges stained before erection, eliminating need for finish painting.



LONDON EXHIBIT CONTRASTS REMODELED FLATS (R) WITH 19TH-CENTURY ORIGINAL (L)

Britain, long tied to subsidized housing, tries rehabilitation with government paying half

Britain, having topped its goal of 300,000 new housing units a year, has turned major attention to the same problem that has become a No. 1 objective for the US housing industry: rehabilitation.

The British effort, which basically recognizes that fixing up existing dwellings is one of the best ways to provide good low-cost housing, differs significantly from US rehabilitation on two points:

1. The British government is encouraging repair and improvement of old homes with 50% grants, whereas in the US the fix-up program is entirely up to private enterprise except that FHA will insure loans up to 95% of the FHA valuation (under Sec. 220), or up to 90% (under the Title I repair program).

2. In England, public housers are pushing the fix-up program instead of fighting it (sometimes covertly).

Rent control and neglect. Almost 40% of Britain's private housing (5.75 million out of 13.5 million houses) is more than 65 years old. But most of it is still structurally sound and salvageable. Many houses have never been equipped with modern conveniences, lack

toilet facilities, electricity or even running water. Few people wanted to live in them. Few landlords, who have been saddled with rent control since 1920, would spare the expense of keeping them in repair. Each year of neglect pushed them further toward slums.

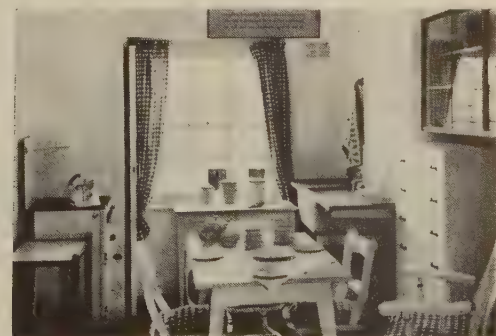
The socialist government's Housing Act of 1949 had attempted to cope with the need for rehabilitation. It permitted local public housing authorities to pay half the cost of converting a large old house into a multiple dwelling or improving an old house by installing modern conveniences. But it tied the grant up with so many ifs, ands and buts (cost had to be between \$420 and \$2,080, remodeled unit had to have expected life of 30 years, rent after fix-up could only rise 6% of landlord's cost for improvements) that up to Nov. '53 only 3,700 units had been improved. Housing authorities and private owners alike thought the procedure too complicated and demanding to be worth-while.

'New homes from old houses.' Last year, the Tory government under Housing Minister Harold Macmillan set out to overhaul the Act. The resulting drive to push

(continued on p. 86)



OLD KITCHEN in demonstration house bears sign advising: "Grants can help you transform old kitchens into new."



REMODELED KITCHEN is in flat furnished entirely with second-hand gear painted or recovered by volunteer women for only \$630.

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... month after month, in one
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When you feature Crane, every single one of these ads is an ad for *you*—designed to sell *your* houses.

This Crane sign with your name will do it. —————→



Because in 1955 more people than ever are going to be looking for the Crane name when they're house hunting. To them, a Crane sign out front will mean not only "best plumbing", but "best house", too ... from foundation to roof ...

... and that makes Crane a mighty effective sales clincher for you.

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SECOND CENTURY
OF QUALITY

Founded
July 4, 1855

"COUNTESS" LAVATORY

"You can see we do
corners," says the
that's exactly what
tells you. In fact, m
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use, precision en
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whole house is qu

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CRANE

CRANE

When you're in the market for a new house

Look in the bathrooms for the answer to these questions:

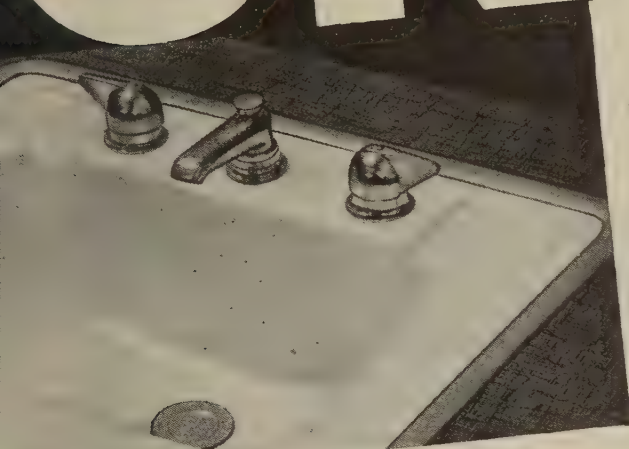
"How well built is this house?"

"What will it be worth 10 years from now?"

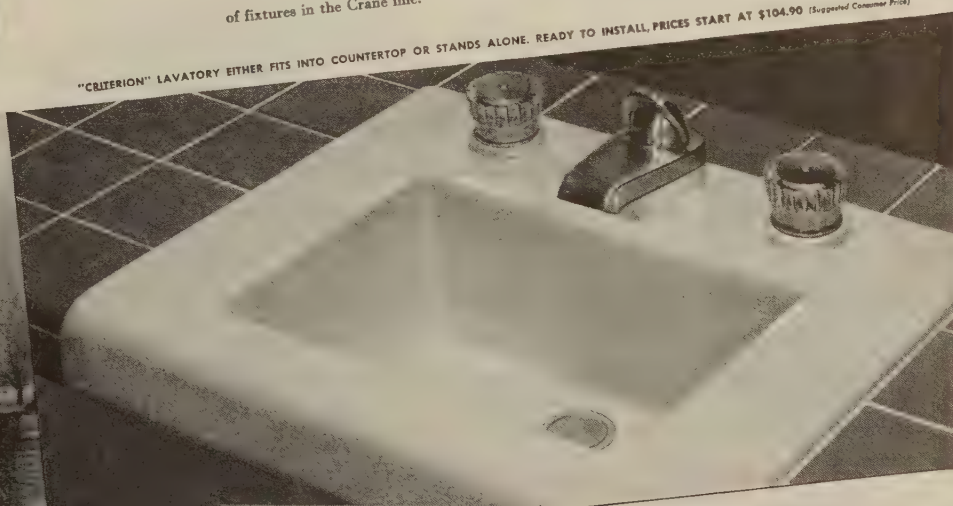
Because—the bathrooms are where a house first shows its age. If the name on the fixtures is Crane, you have design that is advanced today and modern tomorrow—thanks to famed designer, Henry Dreyfuss.

So Crane bathrooms are more than the most desired in beauty and good taste. They are "value insurance" that will help keep your new home looking new longer.

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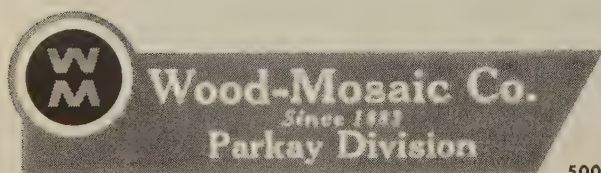
Now you can cater to the home buyer's preference for fine hardwood floors and still keep your costs in line. Trouble-free Wood-Mosaic Laminated Block features one-piece face of choice Appalachian Oak; waterproof plywood construction; accurate milling and choice of two beautiful factory finishes—natural or toast brown.

Wood-Mosaic Blocks are money-savers—from first cost to final installation. They're delivered to the job in convenient cartons. Application of these 9" x 9", tongued-and-grooved blocks is fast and economical. Just apply with adhesive over any sound subsurface—suspended concrete, concrete slab on-grade with or without radiant heat, plywood or solid wood.

Wood-Mosaic Laminated Blocks are also available in Birch or American Walnut. Write today for illustrated bulletin. Beautiful hardwood floors are within your building budget. Let us prove it.

New! OAK FLOORING in
DECORATOR'S COLORS

Truly different! Truly beautiful! You'll see them at the NAHB Show. Wood-Mosaic Laminated Oak Blocks in a choice of colors—Gold, Marine Blue, Rose, Coral, Apple Green. Another Wood-Mosaic flooring first for the modern home.



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rehabilitation began in April, when the government made the 50% grants easier to win and more liberal. Samples: expected life of renovated dwellings was cut from 30 to 15 years, rent boost limits were upped to 8% of the landlord's half of the fix-up cost ("6% is not enough to enable owners to undertake this sort of work," argued the government), local authorities were permitted to approve applications without referring them to the ministry, improved units no longer were counted against quotas for new housing.

Big gun of promotional efforts was an exhibit (cuts, p. 83) of how much can be done with a little imagination, paint and plumbing to make—as the exhibit's slogan said—"new homes from old houses." Between June and August, more than 250,000 people inspected a row of units built on a bombed-out site—one a sample of a common old house that is falling into decay throughout England, three others showing the same basic structure modernized.

By the end of August, approved rehabilitation applications had doubled over the Dec. 31, '53 figures. Local housing authorities, who once dragged their heels, were firmly behind the scheme, even enthusiastic boosters of it.

Can an aluminum-concrete wall compete in housing?

If an experimental house going up in Flossmoor, Ill. outside Chicago lives up to the hopes and promises of its builders, the plastering industry may be able to stave off competition from other wall materials.

The six-room, 1,600 sq. ft. house (see cut) is being built with steel studs and roof joists, outside walls of enameled aluminum siding backed up with mesh and 3" lightweight concrete mix, and interior walls of lath and plaster. The two walls are separated by 1½" air cavity, vented to the attic. Its builder, Joseph D. McNulty, president of McNulty Bros., Chicago plastering and lathing contractors, claims the wall can be built for \$1.45 per sq. ft.—Chicago prices. That is about the same as a common brick wall but some 30¢ sq. ft. cheaper than face brick.

Several architects in the area (on the basis of studies of the process but without personally examining the house) told HOUSE & HOME they question whether the \$1.45 figure is realistic. Design Chief William Haskarl of the Chicago Housing Authority said the CHA has concluded it would be \$2.65 a sq. ft.

McNulty, however, predicts this type of homebuilding is "just about ready to break." His view: when Alcoa takes the wraps off its new colored aluminum panels, "something big" will happen to the building industry.

ALUMINUM-WALLED HOUSE IN CHICAGO



OPINIONS

These intellects shed the following light on matters of moment to housing:

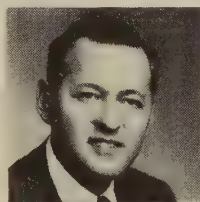
Mortgage Banker **George Warnecke** of New York, in *The Mortgage Banker*:



Len Rosenberg

"During the past 20 years, FHA has become imbued with a basic misconception: it has been influenced by political thinking and has been run like a political instrument, and not like a business organization. The FHA must begin thinking about *risk* more than about government policy. . . . To do otherwise [is] a gamble, not an underwriting operation. This gamble would be all the more serious in the case of FHA because its stakes are so high and its commitments so long range. . . . Many appointments to FHA positions seem to originate in the belief that a good real estate, stock or bond broker has a general idea of financial and real estate matters and will therefore be able to 'do all right' in his new job. . . . Mortgage underwriting is about as different from real estate brokerage as the tasks of a patent attorney from those of a general practitioner. . . . The time to review FHA and initiate needed reforms is now, while the public is still awake to its very apparent deficiencies."

Architect **Herman H. York**, in talk to NY State Home Builders:



Borden Studio

"The greatest need today is for standardization in preassembled component parts. There are still too many hours spent on site fabrication. There is a fine balance between preassembly and individuality of design, but enough variation is available to afford the designer considerable latitude."



C. McKim Norton, executive vice president of New York's Regional Plan Assn., in the *Regional Plan News*:

"The glories of more than 1 million sq. ft. of new office space a year are an important cause of Manhattan's transit troubles. Built under the city's loose-jointed and aged zoning ordinance . . . they throw added rush-hour crowds helter-skelter at the subways, bus and rail systems. . . . Isn't it about time Manhattan stopped ogling that 'glamour girl,' the private automobile, and turned full attention to the subway, bus and railroad systems. . . ."

PRECISION QUALITY PLUS SALES FEATURES

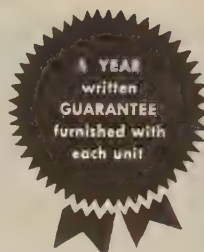
DESIGNED FOR TODAY'S HOMES

—engineered for safety and ease of operation. Thousands of home builders across the nation have installed this quality salesman in their homes for quicker sales and more profits. Seven exclusive features plus Precision's big five-year guarantee have made Precision America's No. 1 Stairway. Stocked by 130 leading jobbers in the U. S. A. and Canada.

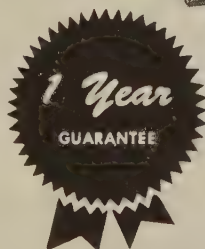
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SEVEN EXCLUSIVE FEATURES

- 1—HYDRAULIC SAFETY CHECKS—prevents slamming of stairway on opening and closing; shut stairway door tightly and ease stairway into open or shut position quietly and safely.
 - 2—ACTUATED BY COUNTERWEIGHTS—cleverly engineered; they close the stairway tightly every time. No springs to weaken; no adjustments necessary.
 - 3—LIFE-TIME ROLLER BEARINGS—make operation noiseless and practically effortless.
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 - 5—INSULATED DOOR PANEL—saves fuel in winter by preventing loss of heat to the attic and keeps out summer heat from the room below.
 - 6—FULL WIDTH SAFETY TREADS—protect each step, add to appearance, and assure a safe footing.
 - 7—FITS ANY CEILING HEIGHT—graduations on runners facilitate cutting off for different ceiling heights and insure a saving on both installation time and cost.
- TWO STANDARD SIZES: 8'9" and 9'9". For ceiling heights 7'0" to 8'9", use 8'9". For ceiling heights 8'9" to 9'9", use 9'9". Figure from finished floor to finished ceiling—not floor to floor. Frame fits 26" x 54" opening in ceiling; also 30" x 54" (special) at extra cost.



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New! BALANCED SPRING ACTION for effortless operation.

SIMPLE AND EASY TO OPERATE—no adjustments necessary.

RUGGED AND STRONG—Manufactured of highest quality materials—No. 1 kiln dried lumber throughout. All parts secured by bolts and screws—no nails.

TWO STANDARD SIZES—8'3" and 9'9". For ceiling heights 7'0" to 8'3", use 8'3". For ceiling heights 8'3" to 9'9", use 9'9". Frame made to fit 26" x 54" opening in ceiling.

SHIPPED IN ONE PACKAGE—shipping weight, 8'3", 52 pounds; 9'9", 56 pounds.

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20-TIMES-CLEANER AIR!



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Look at these selling advantages! The new *Electro-KLEAN* ELECTRONIC HOME AIR FILTER keeps wallpaper and fabrics clean without frequent housecleaning . . . eliminates daily dusting chore . . . traps air-borne pollen and germ-laden particles!

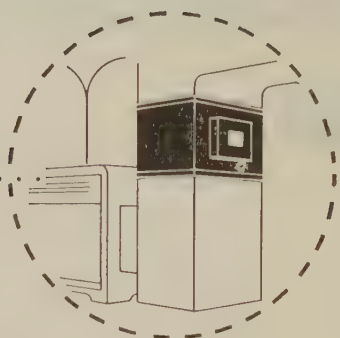
Yes, *Electro-KLEAN* is the *trouble-free* filter that keeps air actually *20-times-cleaner* than throwaway type filters . . . removes dust, dirt, soot and grime particles down to 1/100,000 of an inch!

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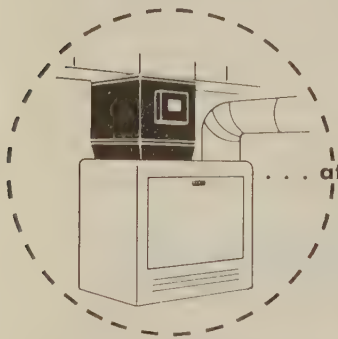
Behind *Electro-KLEAN* is the background of American Air Filter Company, with 30 years' experience in the design and manufacture of air cleaning and dust control equipment. No other name can offer such assurance of quality.

REMEMBER, ONLY THE NEW *Electro-KLEAN* OFFERS ALL THIS: Super-clean air — 20 times cleaner than throwaway filters . . . no water and drain connections needed . . . filters air mechanically even when power is off . . . no maintenance required . . . backed by years of research and home testing.

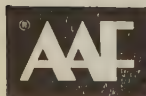
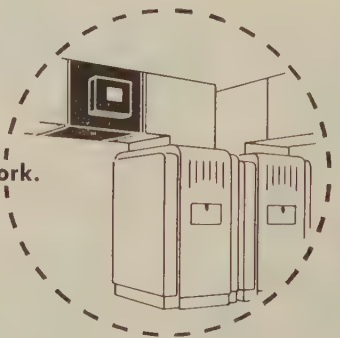
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EVENTS

International Home Furnishings Market, Jan. 3-14, Merchandise Mart, Chicago.

"Good Design" exhibition for 1955, sponsored by N.Y.'s Museum of Modern Art and Chicago's Merchandise Mart, opening **Jan. 4** at the Mart; will be exhibited in the fall at the Museum.

Short Course in Residential Construction, including reports on roof framing, a newly developed glue-nailed truss and adaptation of preassembled wall panels for exterior walls of split-level and two-story houses, sponsored by the Small Homes Council, **Jan. 13-14**, University of Illinois, Champaign, Ill. For details address R. K. Newton, 725 S. Wright St., Champaign, Ill.

National Association of Home Builders, annual convention and exposition, **Jan. 16-20**, Conrad Hilton and Sherman Hotels, Chicago. Two NAHB annuals, 1955 **CONVENTION RECORD** (convention summary, including speeches, ideas and methods displayed) and 1955 **HOUSING ALMANAC** (housing fact book, including statistics, lists of key officials) now being offered as package at special convention price of \$6. Single copies: \$5 and \$2, respectively.

American Society of Heating & Ventilating Engineers, annual meeting and exposition, **Jan. 24-27**, Philadelphia.

St. Louis Bildors Home Show, Feb. 12-20, St. Louis Arena, St. Louis.

1955 Philadelphia Home Show, including for the first time a do-it-yourself section, **Feb. 14-19**, Commercial Museum, Philadelphia.

American Concrete Institute, annual convention, **Feb. 21-24**, Hotel Schroeder, Milwaukee.

National Adequate Wiring Bureau, annual conference, **Feb. 24-25**, LaSalle Hotel, Chicago.

Mortgage Bankers Assn., Midwestern mortgage conference, **Feb. 24-25**, Conrad Hilton Hotel, Chicago; southwestern mortgage clinic, **March 28-29**, The Mayo Hotel, Tulsa; southern mortgage clinic, **March 31-April 1**, The Dinkler-Tutwiler, Birmingham, Ala.; eastern mortgage conference, **May 2-3**, Hotel Commodore, New York.

Prefabricated Home Manufacturers Institute, spring meeting, **March 26-30**, on board *Queen of Bermuda*, en route to Bermuda.

Southern Pine Assn., annual convention and exposition, **April 4-6**, New Orleans. **World Plastics Fair and Trade Exposition**, including exhibit of building materials, **April 6-10**, National Guard Armory, Exposition Park, Los Angeles, Calif.

Building Officials Conference of America, annual convention, **April 18-21**, Milwaukee, Wis.

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Cover: laminated roof beams being tilted into place in Hart & Weiss builder house (see p. 124). Photo: Joe Munroe.

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January in Chicago is synonymous with NAHB's annual convention and home show of new products.

And January in HOUSE & HOME is synonymous with a certain kind of home show, also—a home show of ideas.

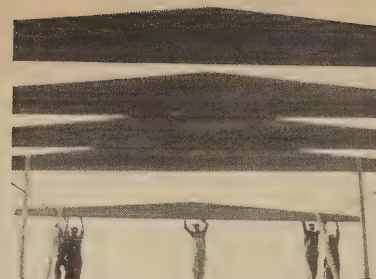
For every growing industry operates on two levels: one, the level of here and now, the level of today's market place, the level of the products, the plans, the techniques that have passed all the tests and are ready for use—right now.

The other is the level of tomorrow, the level of advanced studies, of pipe dreams. No growing industry can do without it. No industry keeps growing unless someone, somewhere, continues to watch out for pie in the sky.

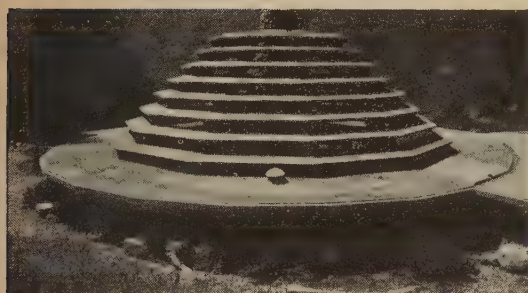
HOUSE & HOME is interested in both kinds of home show—the home show of today as well as the home show of tomorrow. But since Chicago, this month, is doing a bang-up job about today, HOUSE & HOME may perhaps be forgiven for deciding, this month, to pay a big share of its attention to tomorrow—to houses of paper and air, to roofs straight out of science fiction, to builder houses of glass and to an old gentleman who keeps on, year after year, making some of the youngsters look like doddering old conservatives.

And just in case anybody thinks that sound and serious people in homebuilding are not just as excited about tomorrow as they are about today, they might be interested in what an official of a large New York insurance firm said when he was asked recently why he bought mortgages from a Southwestern builder. He said: "We like those people. They're not afraid of tomorrow!"

1. Hinged steel roof umbrella, p. 135



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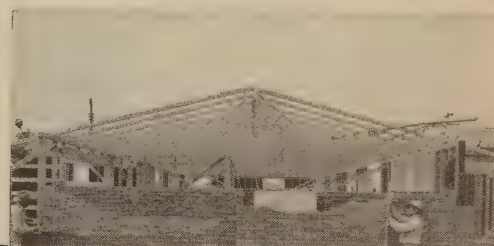
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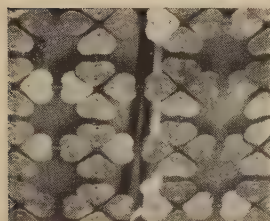
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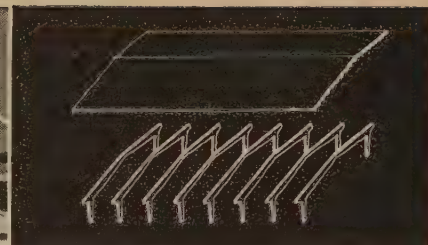
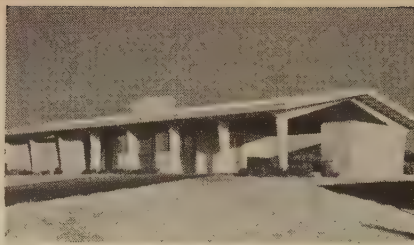
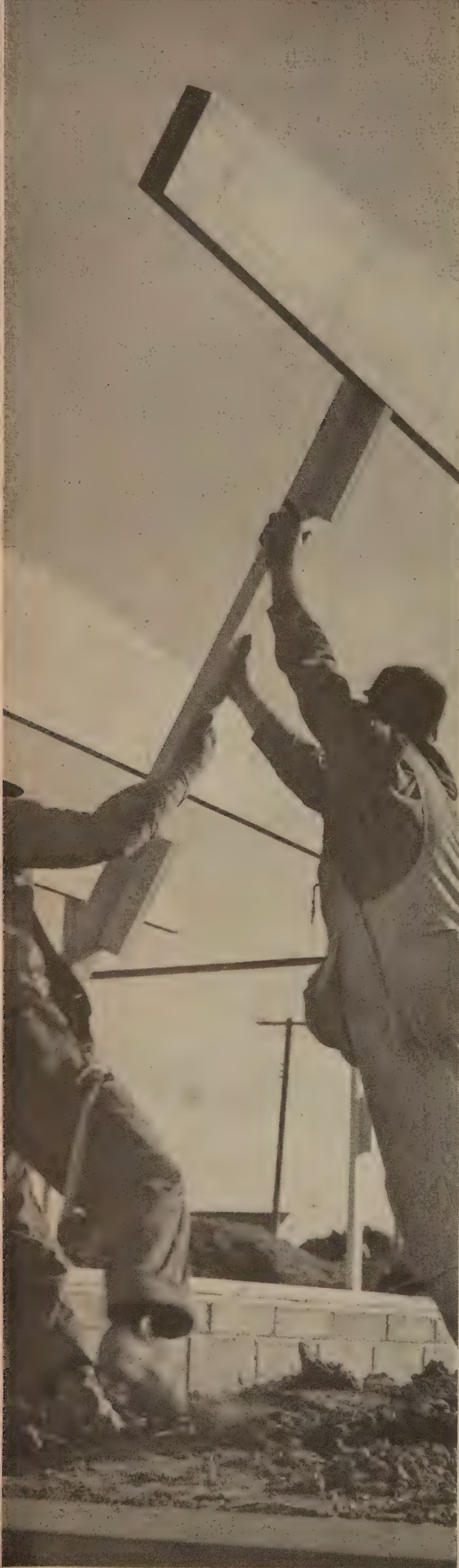


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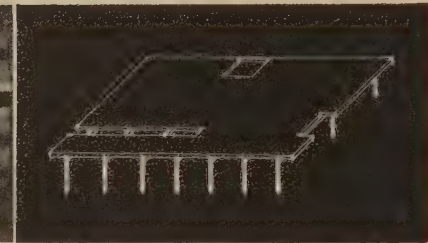


10. Flush doors can make a house, p. 148

Photos: © Ezra Stoller; J. Munroe; J. Shulman; H. Levitt; Dearborn-Massar; E. Silva, courtesy Living for Young Homemakers; Dewey G. Mears; R. C. Cleveland.

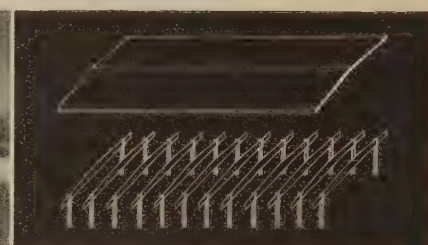


In Knoxville, reinforced concrete bents.
A builder house for Martin Bartling by
Architect Bruce McCarty (see opp.).



**In Seattle, double posts, beams and
planks.** An AIA prize winner by Archi-
tects Bassetti & Morse (see p. 118).

Is this the new look



**In Cleveland, double posts and laminated
beams.** A builder house by Architects
Hart & Weiss (see p. 122).

in framing?

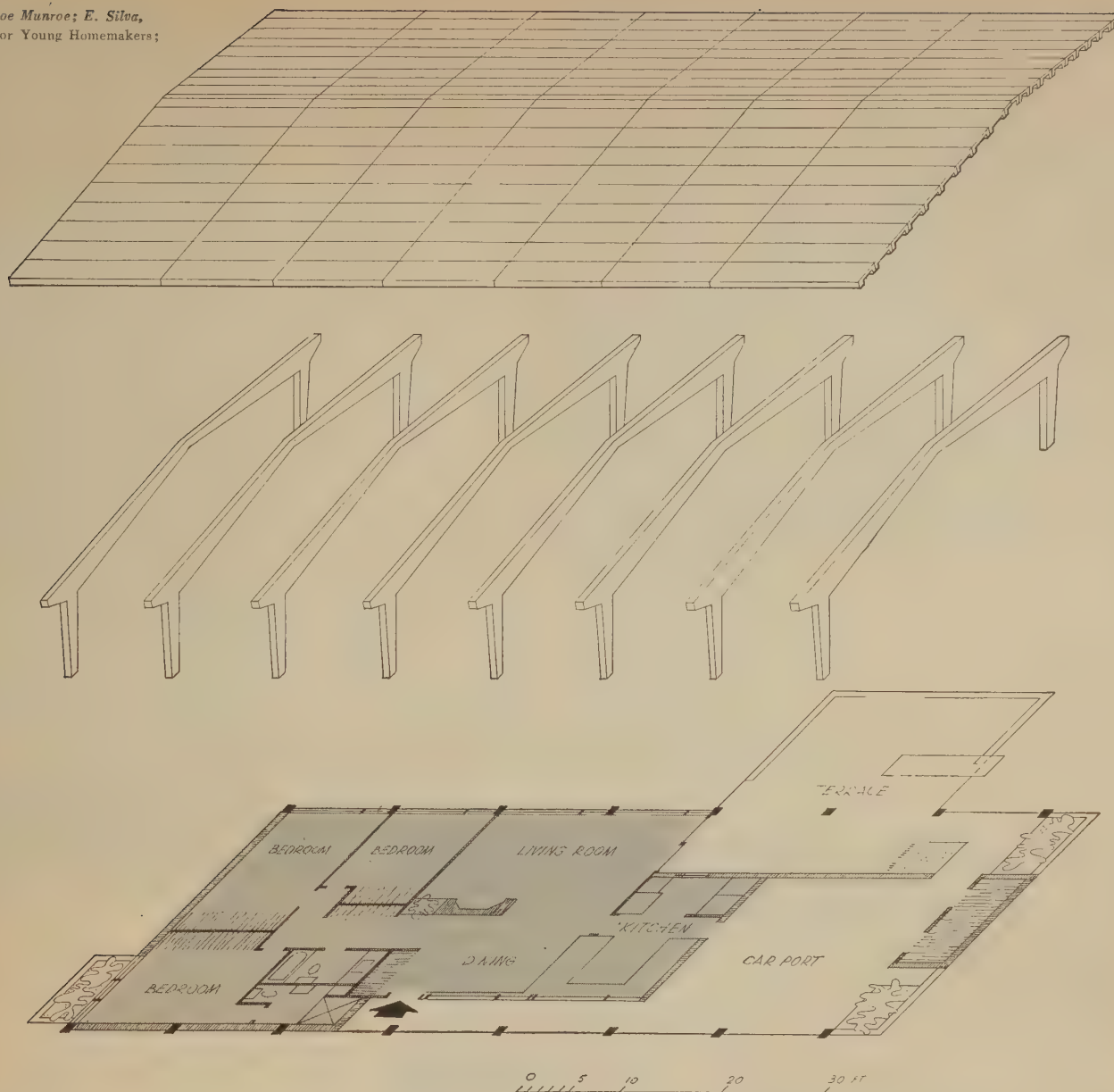
3 ideas for structures

It was sure to happen sooner or later: no architect or builder in his right mind could go on indefinitely building one-story houses with a stud frame designed to hold up two-story houses (plus attics).

And no architect or builder in his right mind could go on indefinitely building houses with large glass walls using a stud frame designed for houses with little peep-hole windows.

The big news in structures is that the change seems to have come at last. The three houses on the next 13 pages have this in common: they are one-story structures, and each holds up the roof on a few strong posts, spaced far apart (to make room for wide sheets of glass between posts). The first house is framed with reinforced concrete bents, more than 10' apart; the second has double posts, beams and planks spaced 8' apart; and the third uses a 6' center-to-center spacing for its elegant, laminated girders.

If this is not the end of the traditional stud frame, it certainly looks like the beginning of the end. And not only like the beginning of the end of inefficient construction: for the new kind of framing is almost certain to bring about better design, simpler facade rhythms, more open plans and lower costs.



1. Concrete bents frame flexible plan

Martin Bartling Jr. has built a new kind of house in Knoxville using a precast concrete frame and concrete roof planks.

In this big house, a guinea-pig venture, eight arches, 10'-8" o.c., with a 29'-4" span, carry all the roof loads. Each arch is formed of a pair of huge bents, each bent weighing 1,600 lb. A mere 1/2" dowel pin joins each pair at the ridge of the roof, 12' above the slab floor. Each bent has a compressive strength of 6,000 lb. per sq. in., can bear a total load of 16,000 lb. They are made of lightweight concrete (100 lb. per sq. in.) as are the 2' x 10'-8" precast concrete planks that bridge the bents to form both ceiling and roof.

And it is a handsome house, too, as the photographs show.

The manufacturer of the bents, precast roof panels and masonry exterior wall blocks originated the structural members and co-operated in putting up the house. The company already has several clients as a result of the Bartling house and expects to sell various types of the bents to commercial as well as residential builders.

One definite client for some time to come is Martin Bartling. Of those who saw the house (built as a Parade Show model), 95% liked it, he says. This spring he will build more like it.

As a building method, Bartling found the concrete construction practical, cheap and quick in the very first house—although, he says, "I made at least \$2,000 worth of mistakes." The completed house (with 3,250 sq. ft. under roof and 1,500 sq. ft. enclosed) sold for \$27,500 on a 120' x 210' lot valued at \$3,500. But Bartling believes the next ones, slightly smaller, can sell for only \$16,000 including large lots.

The method also allowed great latitude in design, despite the seeming inflexibility of the big bents. All walls are freestanding, can be placed wherever the architect pleases. In the first house, Architect Bruce McCarty chose to use less than half the roof area for the house proper, the remaining area for double carport, partially covered terrace, wide eaves.



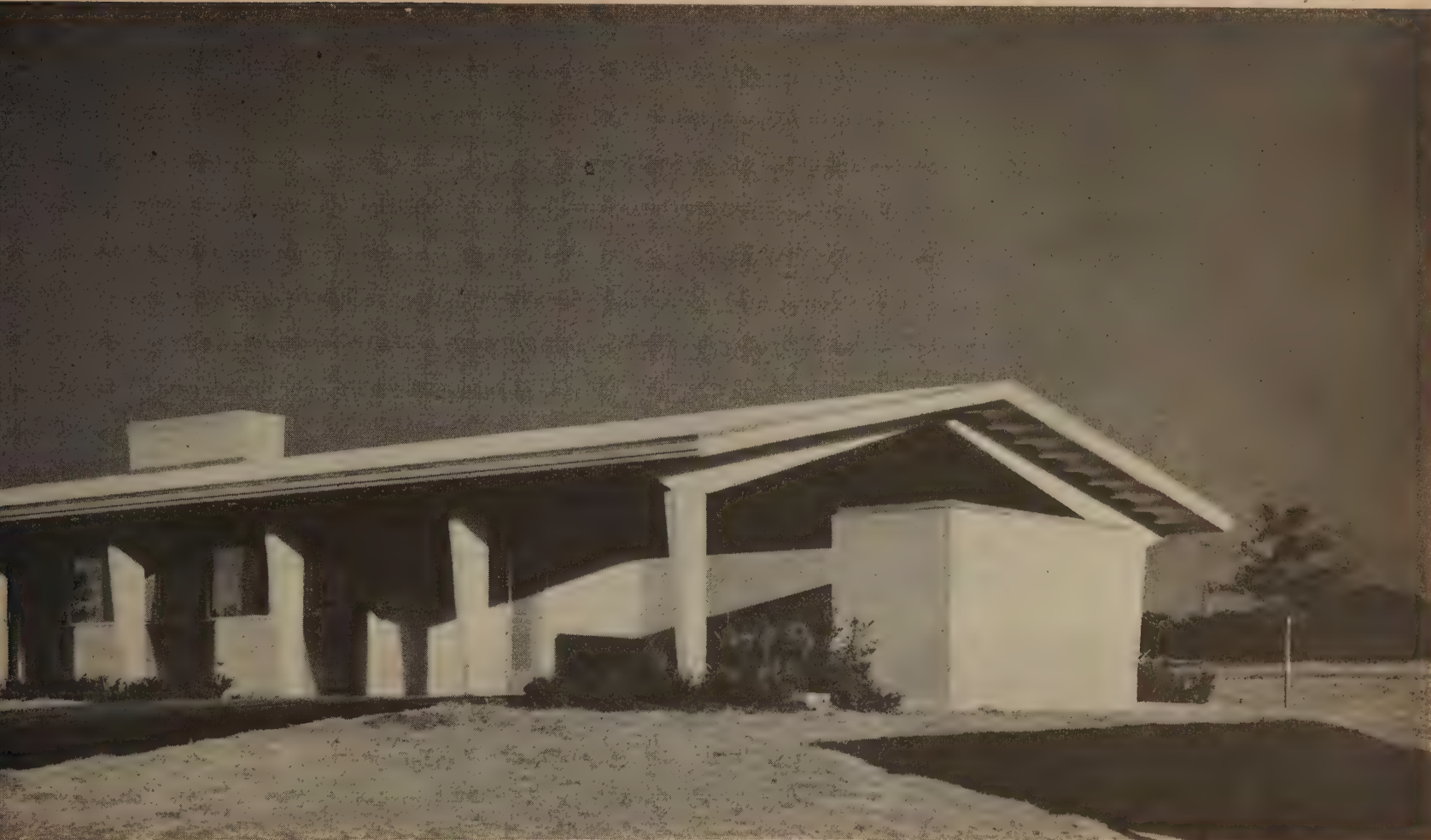
Terrace on south side of house is 21' wide, extends 24' from house and is half under roof. The precast concrete table is 10' long. Wall, formed of the same building blocks as those in exterior wall of house, is painted salmon color.

Inside and outside the bents dominate



LOCATION: Knoxville, Tenn.
 PAINTER, WEEKS & McCARTY, architects
 MARTIN BARTLING JR., builder
 SOUTHERN CONCRETE STONE CO., sponsor
 and developer of bents
 FAULKNER NURSERY, Maryville, Tenn., landscaper

Living room, viewed from terrace, is 21' long, 14'-8" wide and opens off left to dining area. Fireplace is made of same vermiculite-filled blocks as those used in exterior walls. Exposed blocks cut down noise, as do the pan-shaped concrete ceiling slabs which act as a series of baffles. In later houses, slab doors will be used as wall panels instead of plywood to cut costs.



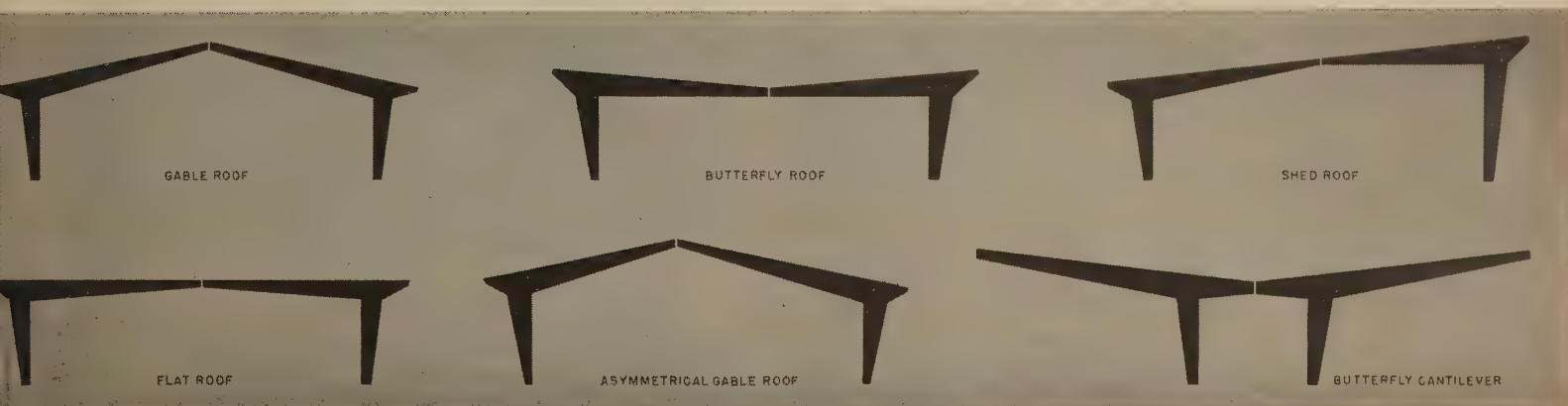
Big carport in experimental house is 21' square. On one side it is next to kitchen; on the other (right) is a storage room. In carport and throughout house, slab is terrazzo-

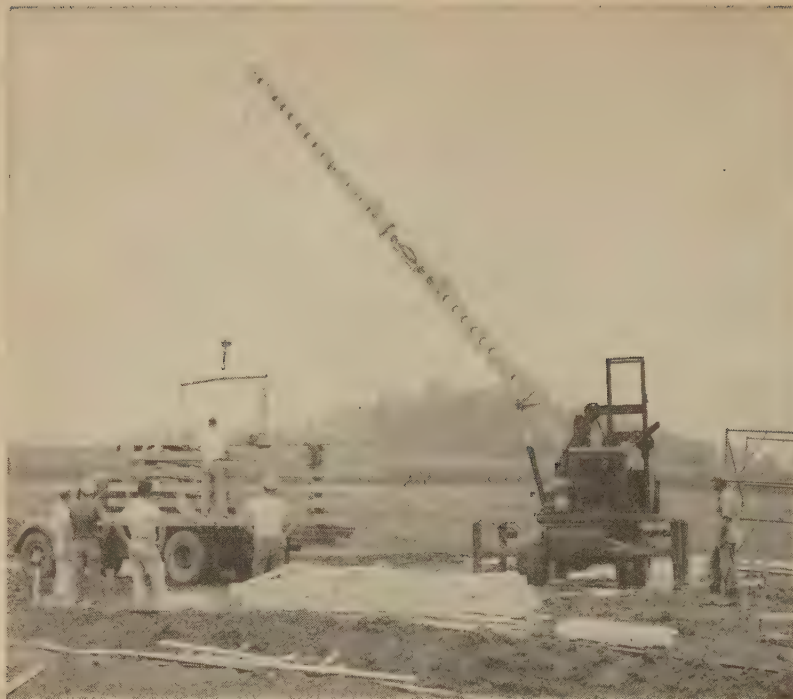
covered. House is heated electrically through floor. Eight pairs of bents are spaced 10'-8" apart along house. Roof area measures 29'-4" wide and about 80' long.

Bents come in many shapes and sizes

In the short time since the Bartling house went on display the concrete manufacturer has taken orders for bents from several commercial builders—and one man who is building a \$50,000 custom house. Architects are designing a doctor's clinic based on the flat bent (below, left), two churches with a "steep

V" (not shown) and a restaurant having the gable bents. There is almost no limit to the variety of sizes and shapes of arches that can be made with these bents. No bugs developed in the system in the Bartling house. Bartling agrees with the makers that the system "has tremendous possibilities."





1. After footings hardened, Bartling's crew was ready to go to work putting up the bents. Crane and its operator were hired for \$12 an hour. Crew included four laborers and supervisor. Here the first bent is ready to come off truck.



2. Crane lifts bent to its footing, which is 2' square and 1' deep. The 1,600-lb. bent is only 8" thick at either end and 20" thick at its widest point at angle.

Bents and roof were up in a day and a half

Always a fast builder, Martin Bartling set speed records for himself with this big house. It was built in two weeks.

Three men spent two days laying the footings, which then hardened in two days. Two thirds of the bents and roof slabs were up at the end of the fifth day, and all were in place the afternoon of the sixth. After that Bartling's crew worked faster than usual—partly because they could work under roof and partly because the house had to be rushed for the Parade of Homes show.

► **Costs were low.** Bartling paid \$1.15 per sq. ft. for footings, bents and roof. The terrazzo-covered slab cost 85¢ a sq. ft. and the exterior walls of vermiculite-filled masonry blocks cost 65¢ a sq. ft. The house is heated through the floor by electricity, a Bartling specialty. "Post-and-beam construction would possibly be more economical," Bartling says, "but it would not create the same architectural effect."

► **"Nothing went sour."** The precast concrete members developed no "bugs" of any kind, although one Bartling mistake, he concedes, was in wiring by conduits through the bents. This proved too expensive. Also, Millard Warren, head of the Southern Concrete Stone Co., feels the concrete could have been made somewhat less brittle than it was. In the first house the stress was on getting utmost strength. John S. Barber of the stone company was the engineer in charge of developing the bents.



5. Footing connection includes built-in device to make bents plumb. Base of bent has 4" x 3" steel box to which reinforcing steel is welded. Box section projects on each side, has holes for anchor bolts. Bent is plumbed by adjustment of nuts over and under connection plate. Tie rod relieves bent of any outward thrust.



3. Bents are joined at ridge of house. Dowel pin drops through top of one bent into hole in a steel pin inserted through steel plates built into each bent.



4. Precast concrete roof members are hoisted to roof and placed $\frac{3}{8}$ " apart across the bents. Each is notched to fit over bents, which have

built-in steel pins to hold lateral roof planks. A 2" fiber insulation topped with built-up roof and white marble chips completes the roof.



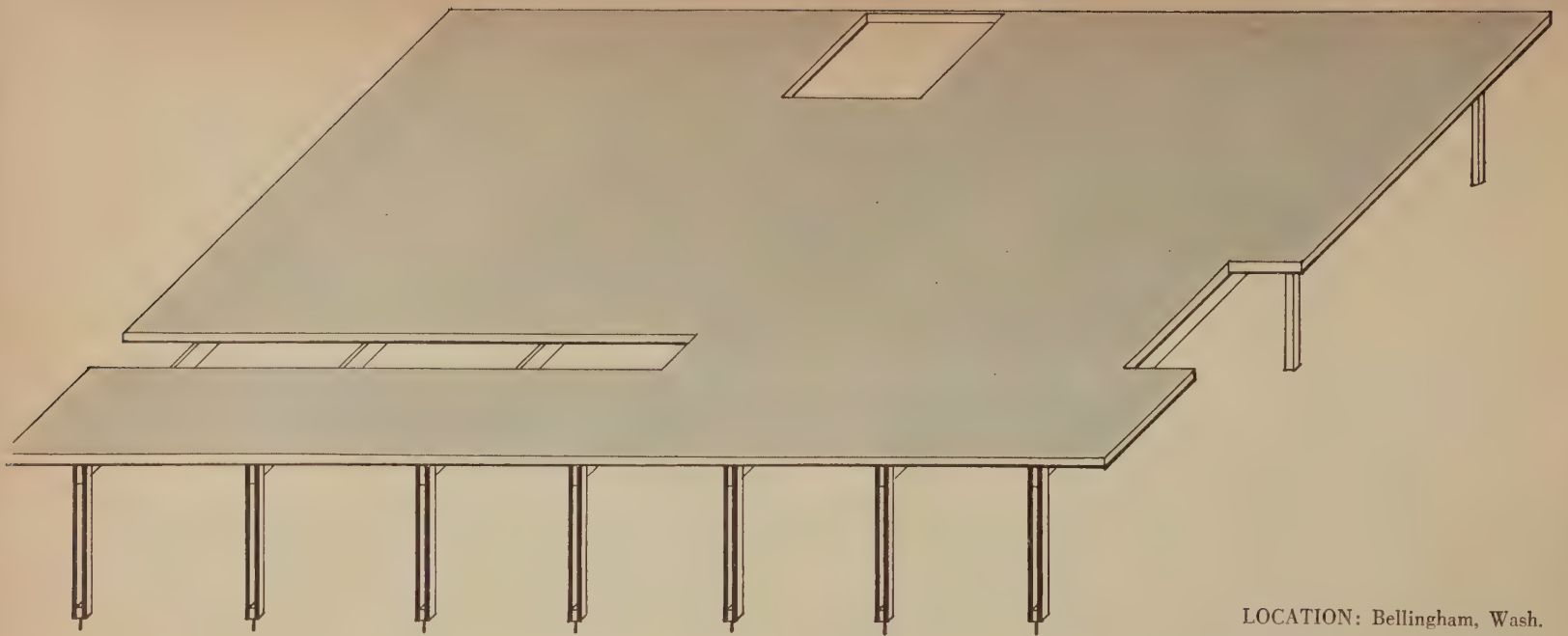
6. Temporary bracing supports bents as workmen here prepare to add more concrete roof slabs. Lateral stability is primarily obtained through the masonry walls put between bents later; transverse stability by the hinge action at each footing and where bents meet at ridge.



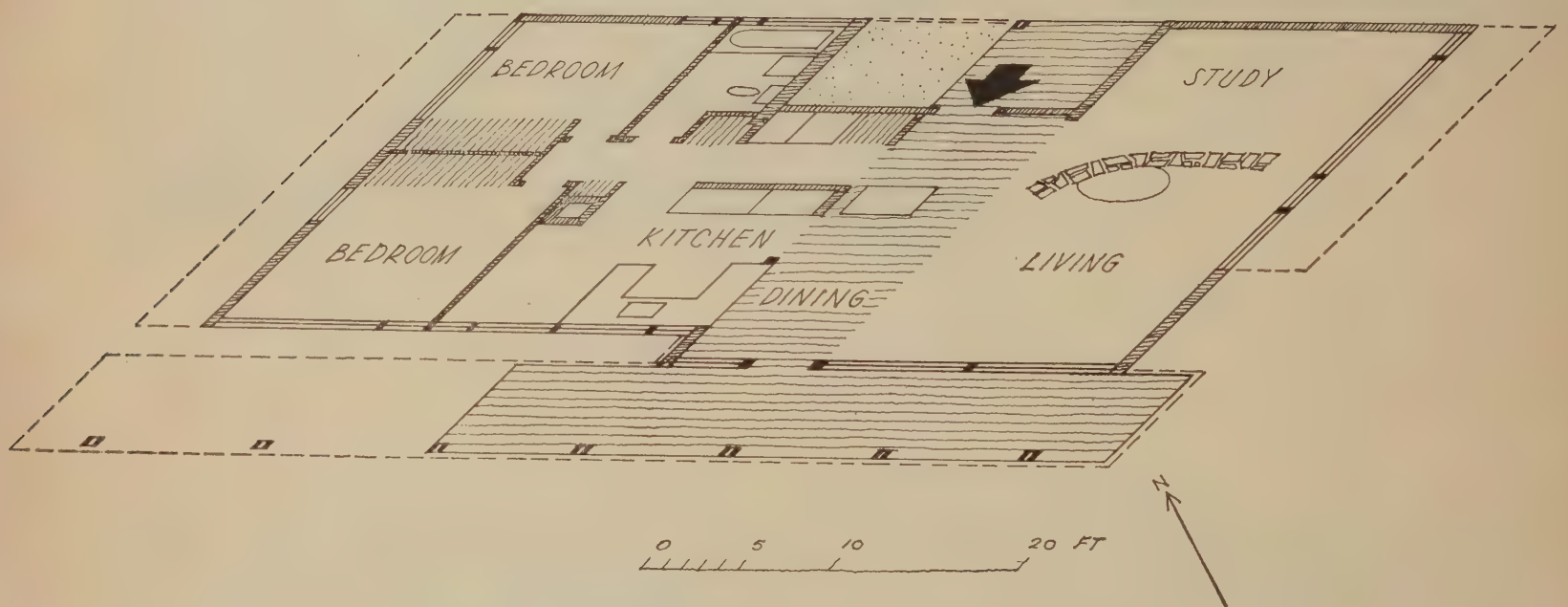
7. Roof planks were put on as soon as possible after each pair of bents went up. This picture was taken about two hours after first bent was installed.



8. Completed structure photographed next day. Crane was used a total of 12 hours. Bartling believes only eight hours will be necessary next time.



LOCATION: Bellingham, Wash.
BASSETTI & MORSE: architects
WALKER & FLORENCE, general contractors



ideas for structures

2. Double posts, beams and planks

A year ago the American Institute of Architects picked this Seattle house for its National Award of Merit because it seemed to demonstrate three points with unusual clarity:

It demonstrates the simplicity of post-and-beam framing, and shows some unusual details in the use of this framing system.

It demonstrates the amazing flexibility of a flat plank roof and shows how easy it is to plan skylights, overhangs and canopies in such a roof at will.

And it demonstrates how a neat integration of plan, structure and wall treatment pays off in overall building economies. At a mere \$10.50 a sq. ft., this house looks like a well-finished piece of furniture rather than a product of rough carpentry.

Double posts embrace the beams

How to connect post to beam and how to set post on footing are the two toughest problems in any post-and-beam structure.

The answer Architects Bassetti & Morse provided in this little house is disarmingly simple: split the post in two, i.e., instead of a 4" x 4" post every 8', take two 2" x 4"s—which are drier anyway—and space them apart to grasp the 4" x 12" beam at the top. Two 1/2" bolts with washers complete the connection (see detail opposite). The result is a stronger post, for the double-strut with its spacer (made of a bolt and a short length of pipe) is a nominal 8" wide, thus acts like an 8"-wide column for the purpose of lateral bracing.



Photos: Dearborn-Massar

open this house in all directions

The footing detail is just as neat: to protect the wood against the moisture of the ground, the architects raised each double post 2" off the footing by balancing each on a pipe set into the concrete.

Bassetti & Morse pulled the row of double posts out and away from the glassy southwest facade of their house to avoid complicating their mullion details with an overly heavy column, and to get a 6' deep overhang-canopy along that side of the building. The 4" x 12" girders do not span the entire depth of the house since it proved simple to make them coincide with lines of interior partitions, and thus give them additional, intermediate supports. Posts on the northeast side of the house are ordinary 4" x 4"s, braced by solid wall panels and buried in them.

Flat plank roof pulls out like taffy

A flat roof has plenty of advantages, rarely demonstrated as clearly as they were demonstrated here.

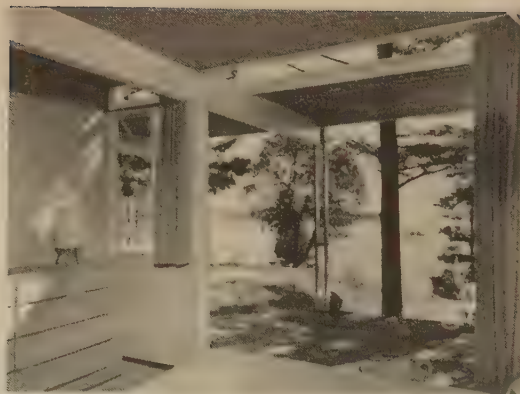
For example, a flat roof can be pulled out like taffy to form overhangs only where glass calls for overhangs. Conversely, holes can be cut into a flat plank roof wherever some light is needed—over a small patio, say, or to get light into an inside bath. Bassetti & Morse had no inside rooms to cope with here, but their free handling of the 1½"-thick, T&G plank roof shows its potentials to the full.

Rigid insulation, 1½" thick, was applied to the underside of the plank roof to conceal the inexpensive grade of wood used for the actual deck.





Stone "partition" screens study area from living room. Note slots of glass between ends of beams on northeast side of house. Bringing wall up to underside of beam and filling in the rest with glass makes for neat, simple details.



Roof slot (see also opp.) gives extra light to bedroom, was easily produced by omitting a few roof planks—demonstrating a major advantage of the flat roof. Note pipe-separator between posts, and pipe supports on footings (see opposite).



Glass wall is amply shaded by 6' overhang. Mullions are structural 4" x 4"s rather than double posts, since latter would look too clumsy between sheets of glass.

Design integration is key to low cost

In this house the structure, the plan and the wall treatment fit hand in glove. Because post-and-beam framing is so open, the plan can be open (and, conversely, the open plan called for an open frame). Because the framing system leaves wide, nonstructural gaps, the walls could be treated as alternately *transparent and opaque*

screens, rather than as heavy monoliths punched full of holes. And because the plan took advantage of the structure (instead of trying to fight it), and because the wall treatment made a virtue of the post-and-beam frame, this well-finished 1,200 sq. ft. house for a young couple could be built—on a custom basis—for only \$12,500.

Overhang turns into semidetached canopy without effort. Roof slot meanwhile helps to light bedrooms—and permits glimpses of starlit sky at night.





ideas for structures

3. Laminated beams and modular walls give

The 66 running feet of redwood and glass above are the facade of the most advanced builder house in Ohio. It is also a house with enough new structural ideas to have kept Cleveland FHA appraisers fascinated for months (see opp.). As for design ideas—the pictures on these pages tell their own story.

Every so often a house comes along that confounds most of the skeptics in homebuilding. This is a fine case in point.

Here are some of the traditional misconceptions challenged by this unusual house:

Misconception No. 1: that Middle West home buyers are not ready for modern architecture. Fact: this house, designed by two young architects, ex-students of vanguardist Mies van der Rohe, sold six times over on the first day (prices are in \$18,000 to \$20,500 bracket), another six times shortly thereafter. A total of 54 houses will be under construction by spring because the demand is so great.

Misconception No. 2: that the public does not like flat roofs. Fact: this house was built as a flattop and also with a low-pitched roof. Home buyers preferred the flattop model. (Admittedly, it was slightly cheaper, but they preferred its appearance, too.)

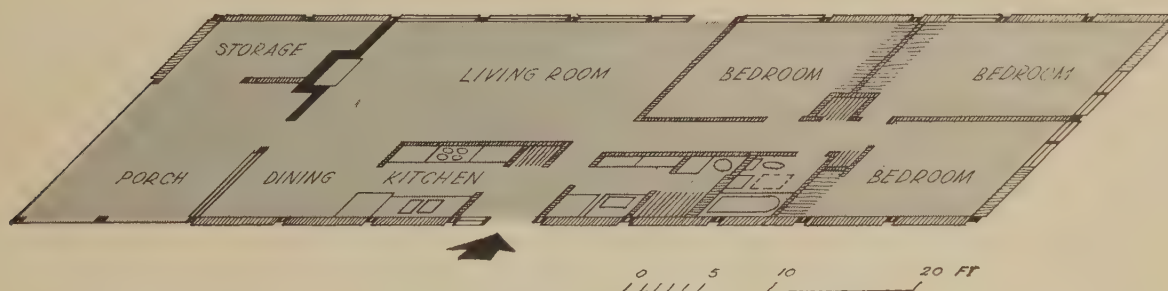
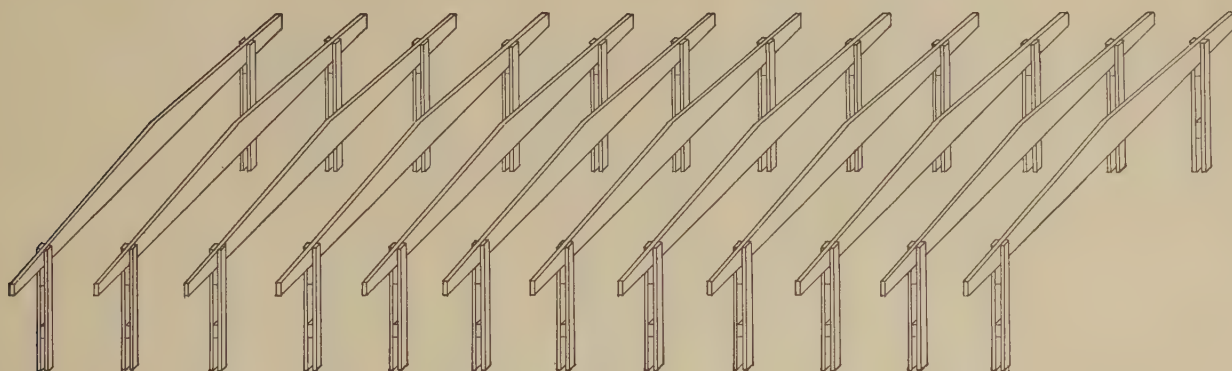
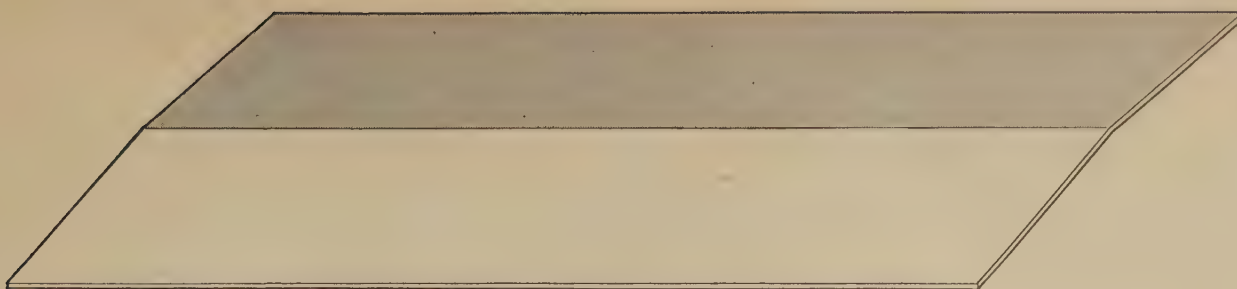
Misconception No. 3: that architects can only contribute facade

decoration to the builder house. Fact: Architects Hart & Weiss worked on everything, from a radically new structural system (see opp.), through planning, to helping indoctrinate the salesmen. They will soon design a shopping center for the project. Say the builders: "We pay high fees and we do not expect to make a large profit on each home. The architects work very closely with our excellent foreman and the public reaction has been wonderful."

Misconception No. 4: that FHA will not approve advanced design. Fact: "All homes are being built under FHA supervision," say the builders, "and to date our commitments have equaled purchase prices."

Misconception No. 5: that you need *old-fashioned* know-how to be a successful builder. Fact: these builders were largely inexperienced—one is a realtor, the other a real estate lawyer—and they already manage to give their customers more space and bigger lots for less money than any of their nearby competitors.

Time will tell whether these new Ohio builders can keep up their current pace. Meanwhile, their model house has enough new construction ideas to give builders throughout the US plenty of things to think about.



this builder house a custom finish

Laminated beams instead of trusses

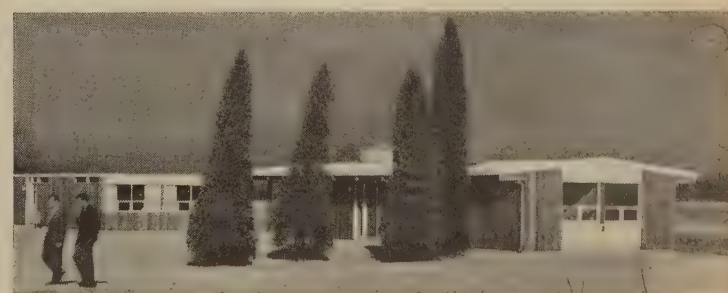
The structure of these houses is simple: double posts made of 2" x 4"s, 6' o.c., carry laminated beams that have a clear span of 21'-6" (and 3'-6" overhangs beyond the posts where necessary). The roof is made up of 2" x 6" planks and prefabricated wall panels fit into the spaces between posts.

The laminated beams were chosen in both flat- and pitched-roof models for their greater strength (a mere 2½" x 13" beam does the job on this 21'-6" span), for their good finish (important since they are left exposed) and for their precision. They also come in just about any shape. Because the structure is standardized to a high degree, it was important to find a type of roof framing which permitted the use of the same post-and-beam and roof-and-wall connections regardless of whether the roof was flat or pitched. The shaped, laminated beam makes that possible.

The shaped beams for the pitched-roof model are admittedly expensive: about \$900 for the dozen needed in each house. But the only alternatives would have been a) two short beams meeting in a ridge beam, or b) a conventional truss (which would have meant adding a finished ceiling). The architects felt that the one-piece laminated beams did the job better and more cheaply.



Two house types—two types of laminated beams. Result: most details in pitched- and flat-roofed models (see below) can be identical. Exception: end walls in pitched-roof model are adjusted to gable end.





LOCATION: Strongsville, Ohio
 HART & WEISS, architects
 KAYE INVESTMENT CORP. (Richard A. Koplow
 and Irving W. Konigsberg), builders
 VICTOR SHELDON, landscape architect
 ALMOUR MORTGAGES, financing

Entrance side of flattop is 66' long, articulated by the 6'-wide modular panels, with occasional strips of "privacy windows" between ends of beams. These houses have three bedrooms, one bath, generous laundry room, unusual amount of storage and a porch. Cost: \$17,950 (\$2,650 down). Garage is extra. 3,000 visitors saw houses on opening day, bought six immediately, preferred flattops. Bathroom has plastic skylight for better lighting and greater privacy. Exterior is redwood siding.

Living area has 24'-long glass wall. Laminated beams are light, strong and free of check marks (which seem to trouble buyers of ordinary post-and-beam houses). Of two model houses originally built, flattop was shown with modern furniture (below), pitched-roof model with Early American to demonstrate that new architecture went well with either.



Teamwork on the job

These houses are unusually well engineered for quantity-production: the wall panels fit into the structural frame with the greatest of ease. From the start the architects worked hand in hand with an enthusiastic foreman, discussed the novel structural system with him. Result: it now takes only an hour for carpenters to tilt up into place the 12 post-and-laminated-beam frames which support each house (see cover). After that roof planks are nailed to the beams to provide protection for all remaining operations.

The structural frame is so flexible that Architects Hart & Weiss have been able to develop several different plans for the same structure. Some of these will have a basement rather than a slab. As soon as FHA gets around to appraising these models, the builders will start putting them up.

Granted that this new development is off to a good start, how about the future? Say Builders Koplow & Konigsberg: "Our original intention was to complete the 100-acre development in about four years, but in view of the enthusiastic public acceptance and very fine spirit of teamwork which has developed among ourselves—builders, architects and tradesmen—we expect to finish the project in half that time."



Brick fireplace (above) is treated as wall-element, fits well into modular structure. Heating is warm air perimeter type with floor registers.



Dramatic glass wall faces away from street, so living room enjoys plenty of privacy. One important "dividend" builders got by employing good modern architects was plenty of free publicity in the Cleveland newspapers. Architects Hart & Weiss will soon design a small shopping center as part of this development, hope to experiment with new site planning ideas as well before they are through.

AN OPEN LETTER

TO THE PRESIDENT

OF THE UNITED STATES

ON BEHALF OF THE

HOMEBUILDING INDUSTRY

Dear Mr. President:

Now that the election is over, we urge, advise and entreat you to find out for yourself what today's true situation is in housing and the housing agencies—what needs to be done, what needs to be stopped. *And why.*

Your present easy money policies are booming homebuilding as never before, so concern for our industry's profits today is no part of the reason we urge you to take a closer look at what has been or is being done with your implied approval.

We just think you would be surprised and troubled by what that closer look would show you—

We think you would be troubled by the many unfairnesses manifest in both FHA investigations, troubled by the half-truths and even bold untruths given official utterance, troubled by the politics that are being played, troubled by the general confusion in housing that is now hidden behind the easy money boom, troubled by the way this confusion and lack of direction is now frustrating the program you had previously endorsed for housing progress.

And we think it is high time someone spoke up honestly and clearly in defense of our industry and helped you find out what is going on.

Nobody doubts even for an instant your own high purposes in housing as in every other field, but you deserve and need better advice on housing than you have been getting these past nine months.

**Little of this advice has been constructive. Much has been bad—
and some has been dangerous for your administration**

Some of this bad advice must have come from men who are themselves uninformed on housing and do not understand the very complex partnership of government and business through FHA that changed homebuilding from a backward handicraft to a dynamic industry and made it a mainstay of national prosperity—all at no cost to the taxpayers.

But most of the bad advice must have come from men whose primary interest in housing is political rather than social and economic—advisers who care less about helping you find better solutions for our many remaining housing problems than they care about shouting up an old scandal for partisan advantage.

We endorse and support your basic concept of government by delegating responsibility to able lieutenants and then relying on their guidance.

**We only wish you would put your faith in just such strong and
well-informed lieutenants in the field of housing, too**

Your administration got off to a wonderful start in housing because you picked your first housing advisers from the outstanding leaders of our industry—architects, builders, lenders, realtors, suppliers, and spokesmen for the public interest groups most deeply concerned with better homes. These men helped you develop a fine new middle-of-the-road program of housing progress and reform—a program to save the taxpayers billions of dollars, a program to bring housing policy back in line with changing housing needs, a program to raise housing standards and build more quality homes, a program to reverse the spread of blight.

Who persuaded you to turn away from these informed counselors?

**In difficult times like this it is worse than confusing not to know
who is calling the signals**

Who were the men from other departments and agencies who moved in on housing last April? Who forced the hand of the administrator to whom titular authority for housing had been given? Who were the members of your fateful five-man housing committee? Is this committee still in charge?

No doubt these new advisers told you they were driving out corruption, restoring faith in the government service, cleaning up abuses, and enforcing long needed moral reforms.

But if you wish to get at the truth quickly, you might do well to insist on a straight answer to these four questions.

For the questions, turn the page

**U. of I.
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Question No. 1: Has the FHA purge raised the standards of public service as you hoped?

You will find the answer is no. The purge has driven more good men than bad out of FHA, eliminated more live wires than dead wood. The headline-hunting methods used to expose a few malefactors have so discredited, dishonored, and demoralized the agency that able and devoted public servants are quitting faster than FHA can replace them. You were fortunate indeed that Norman Mason was willing to accept the post of FHA commissioner under such difficult circumstances, but did you know that for eight months he has found it impossible to get a good permanent man to fill even the No. 1 job on his staff? Too few people realize the enormous handicaps under which he is trying to rebuild the FHA organization and restore its morale.

Question No. 2: Has the attack on FHA won the respect of men who know?

Once again the answer is no. In all the housing industry there is hardly a leader who does not believe the purge is more political than moral. It was not a Democrat but the Republican president of a big New York bank who explained angrily that "FHA was the best of all the New Deal agencies, so the Republicans felt they had to do something to discredit it."

Everyone agrees that corruption must be rooted out of government and malefactors must be brought to justice. But no one familiar with the great public service FHA performed over 20 years in raising housing standards and enabling millions of families to buy better homes will believe it was necessary to shame its entire staff to expose a few men who had fallen for temptation.

Question No. 3: Are the probes and purges furthering your own housing program?

Once again the answer is no. Only the most debatable feature of the new housing law is really working—the extreme liberalization of insured and guaranteed mortgage credit put into effect at the peak of a building boom. The more constructive ideas and reforms you sponsored are being largely nullified, partly by some of the mistaken restrictions tacked onto your program as a result of the scandal headlines, partly because Congress declined to let FHA spend enough of its own income to handle its new assignments, partly because the purges have so terrorized the agency around which your housing program was built, that it is afraid to assume responsibility.

Question No. 4: Has the probe brought a salutary reform in the use of federal mortgage credit?

Once again the answer is no. Your partisans have noisily locked the door through which 608 builders mortgaged out six years ago*, but what if anything did they do to halt equally questionable happenings in 1954—happenings which are worrying every responsible leader of our industry?

Today the housing shortage which may have justified Sec. 608 is long past; yet your administration is now guaranteeing not 90% but 100% loans on houses selling for nearly twice the 608 limit! How can this fail to inflate prices and focus buyer interest on easy terms rather than quality and long-time value? What greater temptation could be offered to take a big profit out of the mortgage money? Why do you think as much as \$300 is being bid to induce veterans to buy a \$12,900 house for nothing down?

* This magazine is no apologist for everything that went on under Sec. 608. Five years ago this month we called it a program of public risk for private profit and explained in detail how a builder of reasonable acumen could take up to 12% cash out of his government-insured loan. Except for filling in some names, all the recent headlines have revealed very little that Senator Capehart could not have read in ARCHITECTURAL FORUM for January 1950. For that matter, they have revealed little that Senator Long did not warn the Senate to expect when he vainly urged the Senate to provide safeguards against mortgaging out back in 1948.

But Sec. 608 was always recognized as an emergency measure to meet an explosive war-born shortage of rental housing for returning veterans; furthermore, the 608 program included a price ceiling of \$8,100 per unit and at least in theory set a loan ceiling of 90% of estimated cost.

We realize that you are already carrying tremendous responsibilities at home and abroad, responsibilities for war and peace, responsibilities for world trade and world prosperity. We realize that you must delegate many decisions, and so we hesitate to ask your special attention to the problems of our industry.

But here are four more reasons why we believe homebuilding should have your careful consideration at this time:

1. Homebuilding is far too important to be left a political football

There is no other industry so dynamic, no other industry that can do as much to sustain the prosperity which is so essential to the success of your administration. There is no other industry which touches so closely the lives of so many millions of families, no other industry whose full production is so necessary if we are to raise our American standard of living.

*2. There is no industry in which the federal government is so deeply involved
(except perhaps agriculture)*

Twenty-two years ago FORTUNE, called housing the industry capitalism forgot, a disgrace to our free enterprise economy. The partnership with government first proposed by President Hoover and realized under Presidents Roosevelt and Truman has brought the industrial revolution to homebuilding and raised housing standards from coast to coast.

3. Your Party has walked into a dangerous political position in housing

The Republicans have lost control of the Senate and House investigating committees—the sounding board for scandal that Walter Lippmann called the biggest prize at stake in last November's election. You could have real trouble if the Democrats decide it is their turn to make political hay of what your administration let happen in home finance in 1954.

Until the muckraking started last spring Republicans and Democrats had worked together for 20 years on a bipartisan housing program, and even last summer the Democrats gave you good support on the Housing Act which could have been—and still can be made—one of the outstanding legislative achievements of your administration. After what has happened in the past nine months no one less than yourself can hope to re-establish that bipartisan collaboration in housing before it is too late.

4. There is still a tremendous need of constructive leadership in housing

Here are just a few of the major problems within homebuilding which merit your personal attention:

- How to get politics out of FHA and FHA permanently out of politics, just as everyone agrees the Federal Reserve should be kept out of politics.
- How to reduce the government's vast contingent liability for mortgages.
- How to reconcile the needless conflict between conventional and insured lending so that each can make its best contribution to help all Americans have better homes. Would the English plan of insuring only the risk portion of the loan be better as well as cheaper than our system of charging too low a premium on the risk portion and too high a premium on the balance?
- How to help the FHA Commissioner in his single-handed crusade to modernize his agency's appraisal attitudes and find a better solution to the problem of standards.
- How to bring enough more money into the mortgage market to make the new Housing Act work.
- How to reconcile the FHA and VA lending programs and stop VA abuses.

For these and many other constructive steps your interest and guidance are urgently needed.

The editors of House & Home

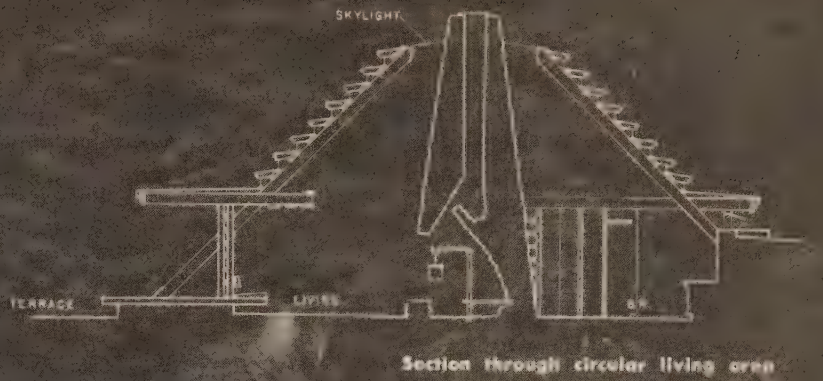
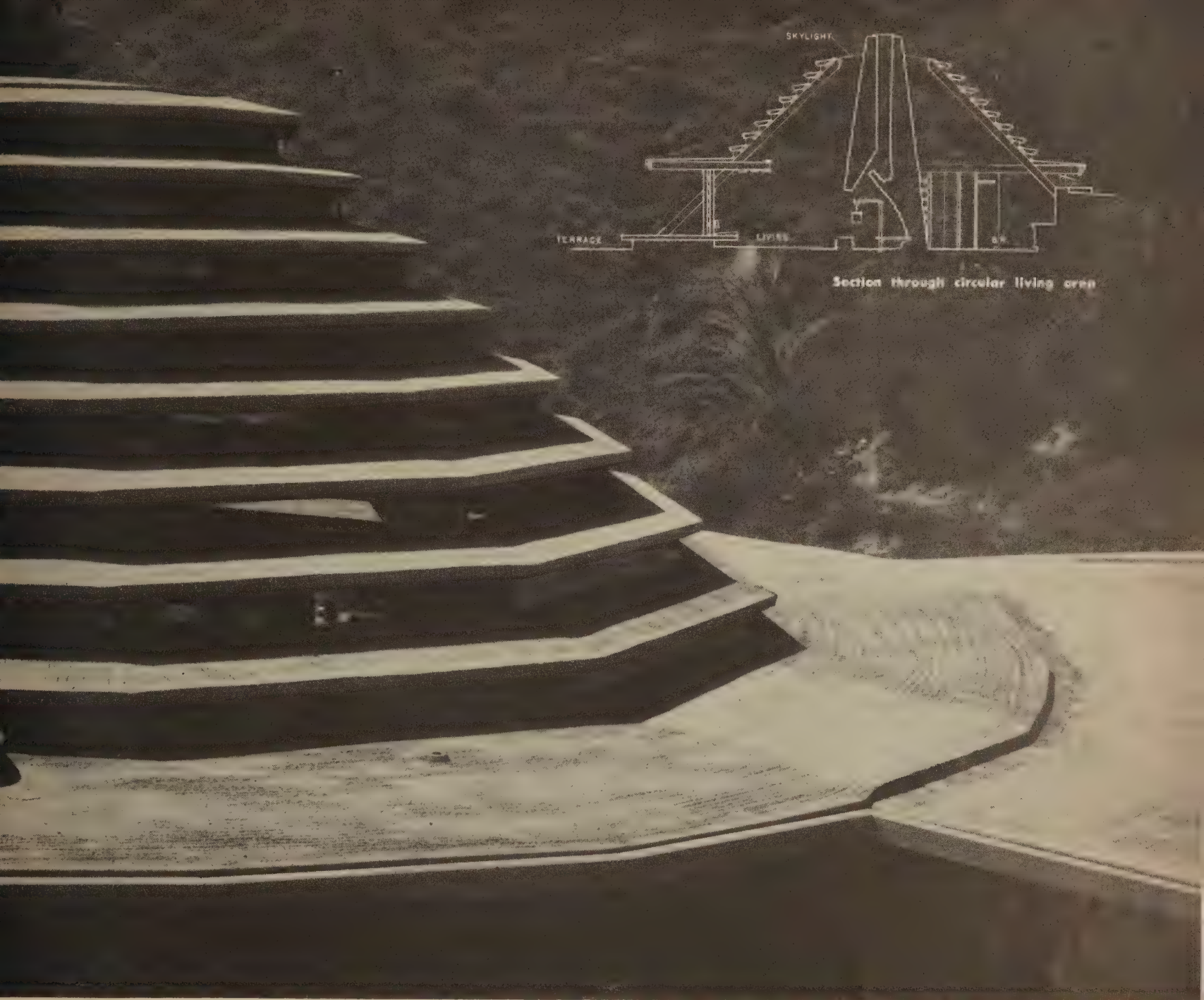


Eight experimental roofs

No part of the house is more trouble than the roof. Even the simplest flattop calls for the work of three or four entirely different trades (all of which get into each other's way). And after the average roof is all built, it is likely to continue as the No. 1 maintenance problem during the life of the house.

The architect-designed custom house is the laboratory of the homebuilding industry, and the "roof department" in that laboratory has been working overtime for the past couple of years. On these six pages is a report on the latest experiments. Some of the ideas are about ready for use in the volume-built house. Others are still strictly in the realm of science fiction.

But we all remember that some recent truths to come out of the laboratories have made the science fiction writers look like dolts. For all we know, some of these experimental roofs may be out of the lab and in the market place before the new year is out.



Photos: Julius Shulman

1. Beehive roof for better light

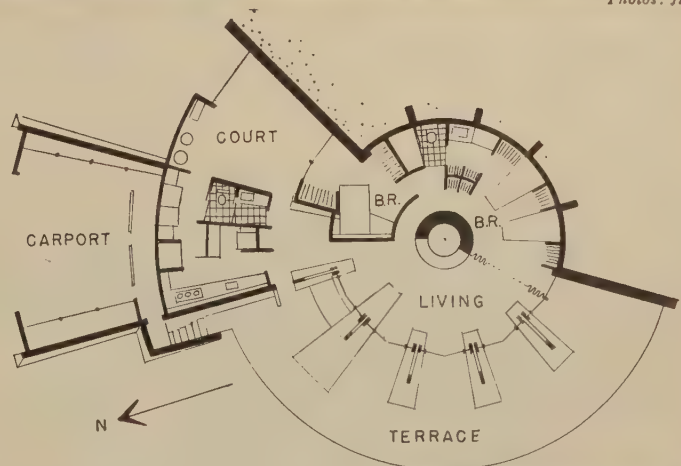
Purpose: to create a glareless skylight dome over the living area. To let sun into the house at all hours of the day, and to permit glimpses of moon and stars at night. To draw heat and smells away from the living area into the funnel-shaped ceiling.

Solution: concentric rings of lightweight concrete, stepped back like a stair, with recessed risers of heat-absorbing glass (see section). "Treads" act as louvers against sky glare, "risers" permit ever changing pattern of sunlight on central stone chimney. Chimney penetrates roof at apex, through circular sky dome.

Architect: George Frank Ligar

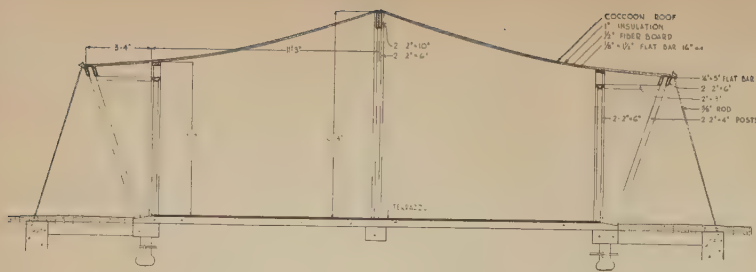
Location: Hollywood, Calif.

General contractor: architectonic builders



Rear of circular house is buried in hillside up to eaves. Cantilevered concrete benches and tables extend through glass wall onto terrace to the west (see right).





Architects: Twitchell & Rudolph

Location: Sarasota, Fla.

General contractor: Associated Builders, Inc.



2. Plastic roof in suspension

Purpose: to exploit the tensile strength of steel in roof structures; to develop a thin roof sandwich flexible enough to withstand some movement in the tentlike form.

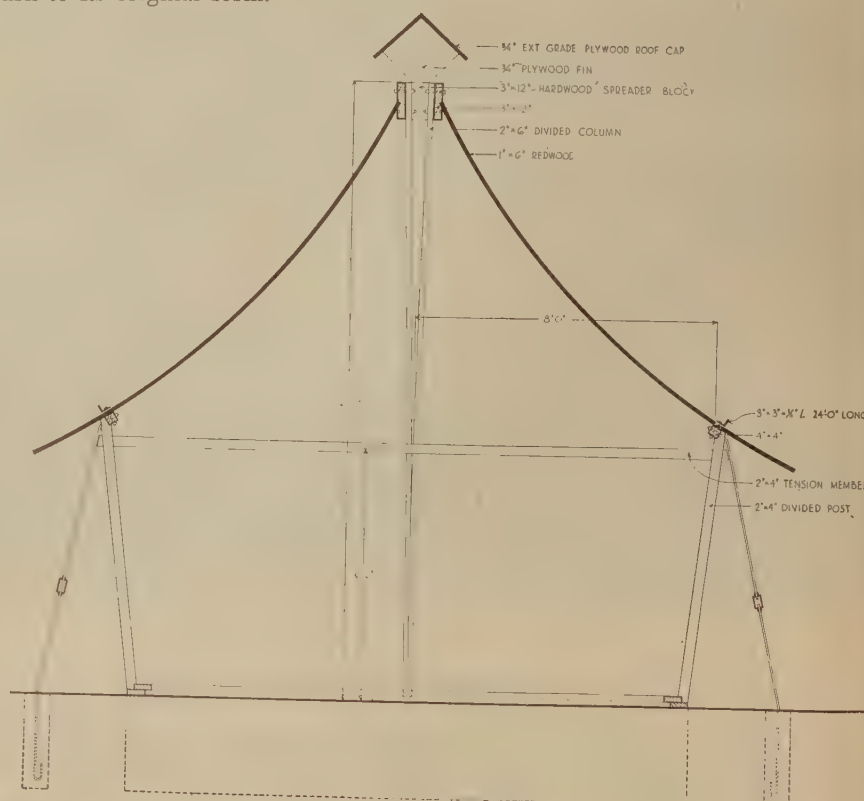
Solution: steel bands, $\frac{1}{2}$ " x $\frac{1}{4}$ " in cross section, were hung 12" o.c. between three rows of more or less traditional post-and-beam frames running the length of the house. The steel bands support a sandwich of $\frac{1}{2}$ " fiberboard and 1" insulation, sprayed top and bottom with the plastic developed by the Navy for mothballing during World War II. Steel bands (and, thus, the roof profile) were permitted to assume tentlike sag. Plastic spray is flexible, stretchable to three times its length, will then return to its original form.

3. Redwood tent for a garden

Purpose: to develop an extremely light, nonweatherproof garden shelter—a small teahouse next to a backyard pool.

Solution: 1" x 6" T&G redwood boards were butted and nailed into a rabbet cut into each of the ridge beams (two 3" x 12"s—see section). A temporary batten was placed on the outside face of the boards, and wires with turnbuckles were stretched between battens on opposite roof planes until the two halves were drawn together approximately to present position. Boards were then nailed into eave beam and the angle (which doubles as a gutter) was bolted through to the eave beam from the outside. When the temporary wires were removed, the redwood planes snapped into a slightly flatter arc. Double supporting struts, cross ties and rods that tie the roof to the ground counteract the outward thrust.

This unusual roof form reversed the normal stresses in just about every structural member: ridge beam tends to bend *upward*, most supports are in *tension*, and sole important compression members are the short struts under the eave beam.



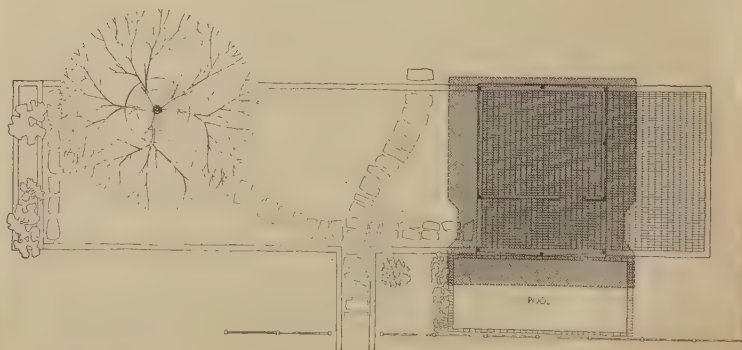
Photos: (top) Rodney McCay Morgan



Architects: The Cincinnati Organization (John M. Garber, designer)

Location: Cincinnati, Ohio

Labor: William Boswell (owner)



Purpose: to design a regular roof of identical, short spans to cover an irregular plan.

Solution: a succession of short-span, low-pitched ($1\frac{1}{2}$ in 12) roofs. Each complete roof triangle is 24' wide, supported at both ends and in the center. Framing members are light—3" x 8" beams, 6' o.c., and 3" x 4" purlins, 4' o.c. 2" thick, manufactured planking spans each 4' x 6' roof bay without intermediate supports. Roof valleys serve as gutters, have 3" leaders at each end. Roofing is 4-ply, built-up.

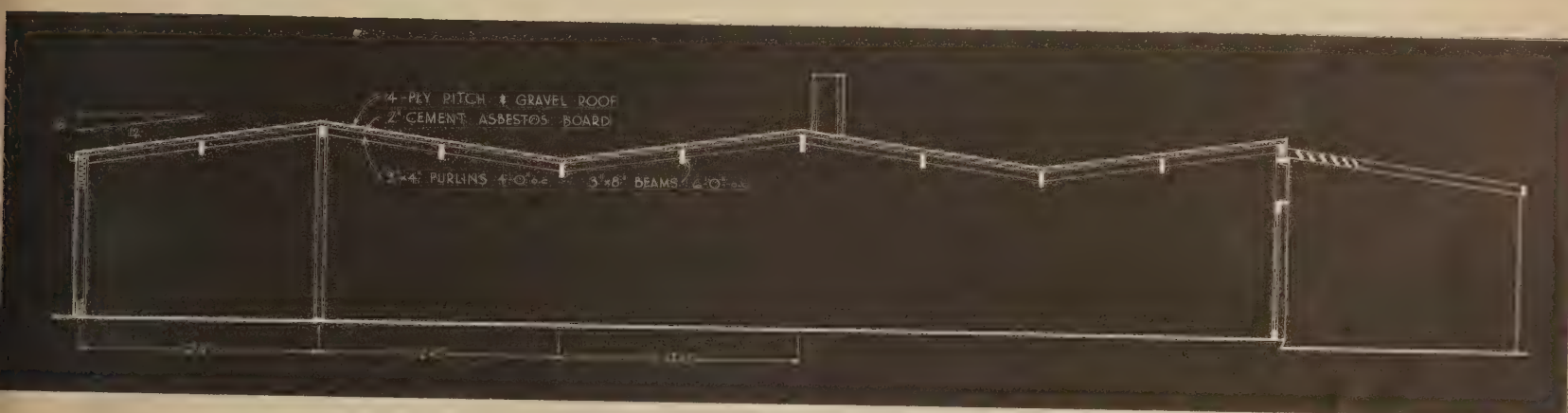
Architect and engineer: Harry Weese

Location: Barrington, Ill.

General contractor: Spencer Rieke



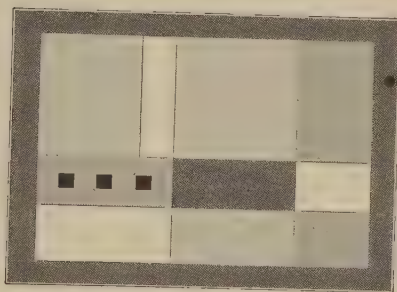
4. Roller-coaster roof for an irregular plan



5. Decorated roof

for a better

bird's-eye view



Purpose: to make a shed roof on a hillside house attractive when seen from uphill side. (This is a common problem in such hillside-lot areas as the Bay region, where most houses are seen from *above* rather than from a level point or from below, and where few houses present anything but a mess of vents, chimney pots and power lines to the onlooker.)

Solution: a rectilinear, abstract design in different colors placed on top of the composition roofing. Materials include gray gravel, crushed red brick, white rock and purple pumice. Three squares are skylights.

Architect: Torben Strandgaard

Location: Sausalito, Calif.

General contractor: William McEwan



6. Concrete bubble sprayed on a balloon



Eliot Noyes & Associates

Purpose: to build a house shell combining roof and walls in one monolithic form, and using Airform construction process (invented by Architect Wallace Neff).

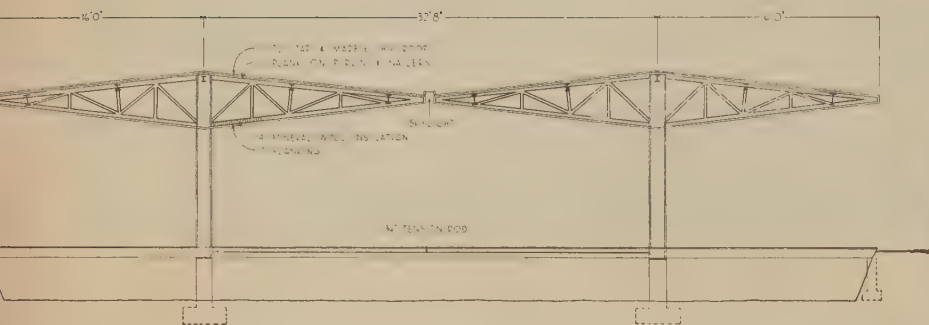
Solution: a 30'-diameter flat-bottomed balloon was inflated to its full 14' height, covered with reinforcing mesh, then sprayed with gunnite. Actually, spraying process is in two steps to permit insertion of vapor seal and glass-fiber insulation between double-shells, each of which is 2" thick.

When completed, shell can accommodate two bedrooms, bath, kitchen, dining room, living room. All window and door openings are grouped together within two arched cutouts. When built in quantities, houses can sell for \$6,000. For the present, only two model houses have been completed, but others are planned.

Architect: Eliot Noyes

Location: Hobe Sound, Fla.

Manufacturer: Airform International Construction Co.



8. Double-diamond umbrella to shelter 64' in a single span

Purpose: to develop a very long span roof structure supported on only eight small points, capable of protecting an area of 2,600 sq. ft., and constructed of very light steel only.

Solution: four double-diamond shaped, three-hinged steel arches, supported on eight WF sections, each about 6" x 12" in size. All sides of diamonds now being closed in, but 10"-wide slot between tips of diamonds will be glazed to form long skylight down center line of house, interrupted only by hinge connectors. Tie rods join columns at footings.

Entire steel structure, including purlins, weighed 12,000 lb., cost \$2,700 erected in one day. (Arches alone weighed only 7,300 lb.) All steel members extremely light to facilitate handling in small, local shop. Some of the results: 16'-deep overhangs on two sides of house. A completely free plan since entire 2,600 sq. ft. roof supported on only 4 sq. ft. of structure. Elegance as well as superior strength.

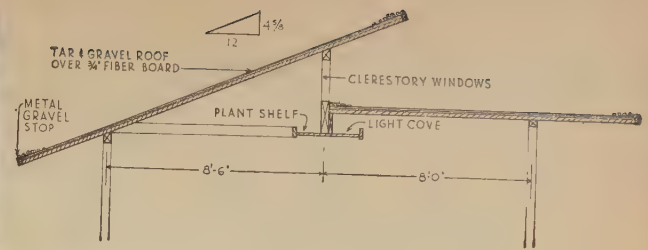
Architect: Ulrich Franzen

Location: Rye, N.Y.

General contractor: Rayback, Inc.

© Ezra Stoller





T. Osmundson



Purpose: to bring the east sun into a house whose entire orientation is westward and down a steep (30°) slope. (Other possible uses: to bring light into a string of windowless, inside rooms without resorting to individual skylights.)

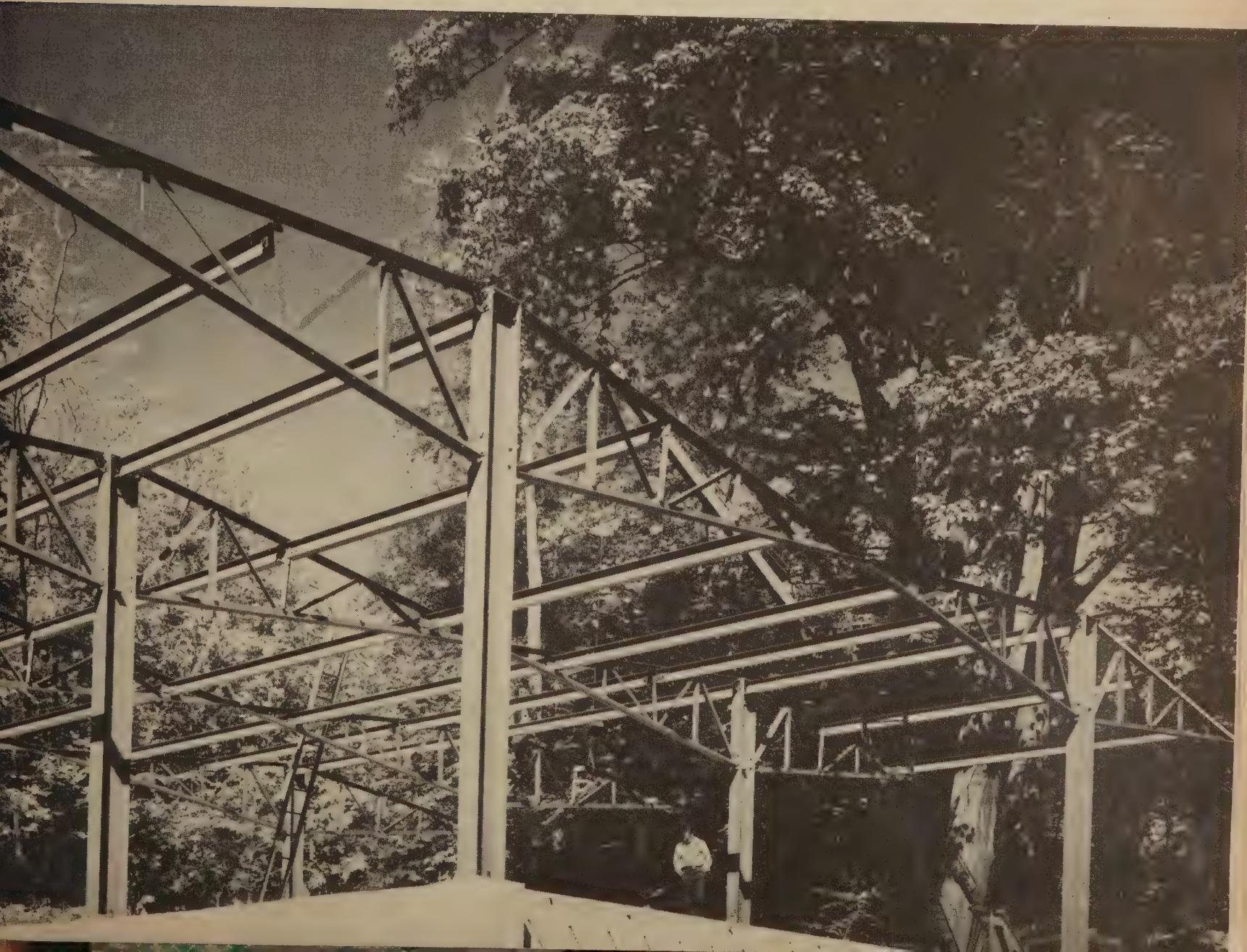
Solution: make half your roof a single-pitched shed structure, the other half flat. Conceal center girder in the ceiling break. Cut down on roof spans to eliminate joists, make do with 2" T&G planks. (This particular house is only 17' deep, thus divides into two short spans easily bridged by planks—especially in no-snow-load areas.) Additional results: reduction of sky glare from west because interior is backlit through clerestories. Note simple cove-lighting detail.

7. Clerestory roof to catch the morning sun

Architect: Roger Lee

Location: Berkeley, Calif.

General contractor: Willis Foster



Rental housing: is it worth the trouble?

Builders agree FHA rules have killed 207. Can you build middle-income rentals without 207? Probably not, but some lenders think it is unnecessary amid easy money

Rental housing, unlike Scrooge's partner, was not dead to begin with. It sickened only recently, after exposure to a double malady compounded of FHA probe and Housing Act restrictions. And it was not yet completely dead; just moribund.

By the time the new Housing Act blessed the American home with terms giving nearly everybody who shares in the gross national product a chance to buy a house, the rental builders must already have seen the writing on the wall. And when they became aware of what they were up against under the revised Sec. 207, they were shocked into vituperative inaction. The senatorial exploration of FHA, with special attention to 608ers, was small help.

Main prop gone. There was no doubt that middle-income rental housing had gotten it—at least temporarily—in the neck (see chart). Applications for Sec. 207 units slumped sharply last summer; Sec. 213 applications hit zero in August, September and October.

"No builder in his right mind would look at 207," said a New York builder recently. "They've utterly ruined housing for the middle-income bracket." This seemingly extreme view was fairly widespread. Reasons for the project builder's initial discontent with the revised Sec. 207 were two: 1) he was confounded by the number of instances of FHA control, especially clauses on limitation of profits in the new charter and 2) he was unused to these terms and, therefore, taken by surprise by them.

Tight little ceiling. Under the new 207 regulations—superficially they show benefits to the builder in the shape of higher allowances on construction cost per dwelling—FHA is entitled to its customary ownership of the preferred stock. This gives the agency control of the corporation. The reason is simple. The preferred stock shall be delivered to FHA "in order that the commissioner . . . may regulate and restrict the corporation as to rent or sales, charges, capital structure, rate of return and methods of operation . . . and to enable the commissioner to protect the contingent liability of FHA. . . ."

Hard on the heels of the cost certification requirement (which NAHB has called sufficient in itself to balk any extensive middle-bracket rental housing) comes news that new 207s will be limited dividend corporations, with dividends limited by FHA to 5%. (This procedure gives rise to the logical question

in builders' minds: "Why is there need for a dividend limitation when the apartment rents are being limited and approved by the government?") FHA is also empowered to take over the project at any time, a power reinforced with a clause to the effect that the agency does not have to turn the project back until it is entirely satisfied with the new setup and by a list of eight "events" whose occurrence shall constitute default and allow the government to step in and—if it so chooses—remove the directors of the corporation. These "events" constituting default include any restriction of leasing because of race or color or because of children in the family; more important, any failure of the company to report to FHA changes in ownership of the controlling stock or of the corporation's executive personnel.

Needed: money. "Rental housing is normally not an attractive investment for investment capital." This financial thesis—founded on the multiple hazards of large outlays well in advance of income, vulnerability to rent control, tax rate changes and rising costs—slows participation in restricted mortgages to a crawl. The trouble has always been that in a speculative endeavor like apartment building the builder cannot be content with any 3% or 4% on his investment. Real estate is not readily convertible, like chemical and copper stocks, and the builder is certain that he does not want to get stuck with a property. Liberal financing is essential. With a 90% mortgage, for example, on a \$20,000 unit, the builder can get his 15% return and amortize the loan (at 4%)

for a rental income of \$1,020. With a 75% mortgage, this income must rise to \$1,350. Thus the trend to luxury apartments—and their attendant higher risk—begins. The fact that the government-insurance programs have tightened therefore means that the consumer is in for higher rents (see tables).

"I don't look for any rental housing," said one mortgage man last month, "as long as the rules stay the same."

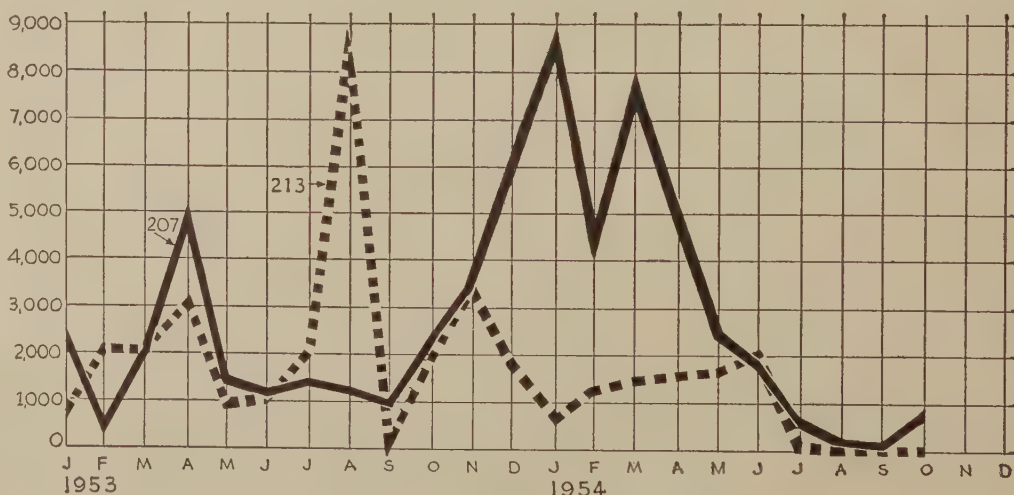
"Insured rental housing is a dead issue," commented an Eastern builder—more sensitive than some, perhaps, because of the questioning he went through on his 608s. "It's a question of investing a tremendous amount of money in a project under some one else's control where you can't get a take."

Dave Slipper of Builder Fritz Burns' Los Angeles organization saw hope ahead: "It would be a mistake to say that nothing is going to happen. The federal tools are getting rusty and will be for some time to come, but there has to be a considerable time lag during which the new machinery can be examined."

President Wallace Moir of the Mortgage Bankers' Assn. feels that the new law is not the ogre some make it out to be: "The requirements of 207 are no stronger than the requirements of a life insurance company lending 80 or 90% on a bond issue. Bond issues would require no dividends over a specified amount until reserves are established. These are not requirements that aren't already being made in financing generally."

What price conventionals? With an at least temporary stoppage of FHA rental mortgages, the logical way out was to rely on conventional building for the housing needs of renters. This solution was complicated by the fact that conventional money was swinging unswervingly to luxury-type apartments, at rents outdistancing an extraordinarily large segment of the population. Conventional projects

HOUSING UNITS IN APPLICATIONS FOR 207 AND 213 MORTGAGES



Latest trend in the precipitous up-and-down totals of 207 and 213 applications in the past two years is the collapse in the third quarter of 1954, after passage of the new Housing Act.

in the middle brackets—the two-story variety common in a large number of areas other than New York—were up against a different pull: “the vital pressures,” as they have been called, were urging the citizen to purchase a suburban dwelling.

The other question: is rental housing needed? Some mortgage men thought it “would be a good thing to have a breather,” let home construction have its head while builders got used to the new 207. Perhaps Sec. 220 would come in for use when urban renewal gathered steam. (Predictions were that 220 would be as slow to catch on as 207, because it would be governed by the same rules. Under such circumstances, as pointed out by NAHB’s Richard Hughes and NAREB’s John Williamson, both 220 and 221 would seriously dampen the administration’s high hopes for urban renewal.) The danger in the “breather” school of thought was that homebuilding might grow too big a head in the interim. With inducements to the prospective home owner being laid on with a trowel some thinkers ventured a word of caution: “Those things are awful bad because when a depression comes and you need those special tools you find that you’ve already used them.”

The other objection to the premise that there is enough rental housing around now so that things can be allowed to slide for a while is that the government’s original intervention in the housing field was to iron out the peaks and valleys in the business. Why stabilize one part of the industry and not the other? If left to its own devices, rental housing would undoubtedly follow the old boom and bust pattern of yore.

Capehart committee report raps industry, blames FHA administration for scandals

The Senate banking committee last month laid primary blame for abuses in the post-war 608 boom and in the Title I repair program on “maladministration by FHA.” In a 140-page report issued Dec. 20, the committee also charged officers of NAHB and MBA with seeking to impede the investigation. Both organizations promptly denied it.

With Democrats taking control of Congress, the report, which bristled with names and profits of alleged wrongdoers, could well be headed for “file and forget” limbo. Sen. John Sparkman (D, Ala.), a senior member of the committee, commented that while he favored a continuing investigation of federal housing programs, he opposed any probe designed to “drag out a lot of dead carcasses.”



CAPEHART

Controversial language. The six committee Democrats approved issuance of the report only after Chairman Homer Capehart (R, Ind.) watered down many of his original conclusions and deleted an accusation that the irregularities constituted “the biggest scandal in the history of our government.” (So Capehart issued this charge in a “personal” press release.) Even so, the Democrats had reservations. They were especially critical of the

frequent use of the word “fraud” in the report: “It is going too far . . . to imply, as we believe the report does, that all who over-estimated costs and received excessive mortgage money were guilty of legal ‘fraud’ . . .”

Sen. Capehart’s committee held 43 days of public hearings in seven cities, looked into 543 projects insured under 608 (out of a total 7,045) and found that in 437 of these the mortgage proceeds “exceeded all costs of every kind or description.” This had occurred, said the committee, through the coexistence of a “few greedy and sometimes dishonest builders” and “incompetent, lax and sometimes dishonest FHA employees.” The committee noted that Congress had provided particular legal machinery for persons willfully making false statements in FHA applications, blistered the agency with: “FHA not only ignored that criminal provision of the act, but it virtually invited builders to make false statements in their applications by publicly stating that it would not consider incorrect statements in applications as having any materiality.”

Jacked-up rents. The report noted that the government has sustained no actual loss so far on the 608 program (defaults have been more than offset by reserves of \$105.2 million FHA has from insurance premiums). But it dwelt on the “large sums in extra rent” tenants are paying because of inflated mortgages. The senators figured that for “every \$1 million of excessive estimate, the tenants may pay as much as \$65,000 a year excessive rent. . . .” Using the committee’s finding that some \$75 million worth of windfalls occurred in the 543 projects examined, it would appear that the “extra rent” bill comes to some \$4.9 million a year. Retorted the Democratic committee minority: “In all likelihood the . . . competitive . . . effect of the [465,683] units developed under 608 reduced rents far more than rents were increased by mortgaging out.”

Misled, deceived? The report asserted that FHA “deceived” Congress and the housing industry “misled” it in testimony in 1949 and 1950 by insisting substantial mortgaging out under 608 was unlikely, if not impossible. It named former FHA Commissioner Franklin D. Richards, ousted Asst. Commissioner Clyde L. Powell and ex-NAHB President Rodney Lockwood and Mortgage Banker Will Clarke as sources of such testimony.

It attacked NAHB and MBA by name in a section asserting industry associations “sought to thwart and minimize” the probe and “. . . devoted themselves to justifying the activities of an uscrupulous few.”

In rebuttal, both Hughes and Neel insisted they had not tried to impede the inquiry. Hughes added NAHB “repeatedly acted to assist [it].” Democrats called it unfair to impugn their “honesty and integrity.”

FINANCING SHOWS HOW NEW LAW HIKES RENT

Sec. 207—old version
as administered by FHA

Typical 207 case under the old version of the law with 10% equity computed in accordance with Sec. 207 procedures:

100 units, 450 rooms. Cost of \$9,000 per unit. Total	\$900,000
Mortgage 80% of value or FHA estimate of cost, whichever is less	720,000
Operating costs \$60 per room per yr.	\$27,000
R. E. taxes \$25 per room per yr.	11,250
Replacement reserve \$10 per room per yr.	4,500
Total	\$42,750
7% net on estimated cost of \$900,000 for debt service and return before taxes. (207 debt service ¾% higher than 608*)	63,000
Required annual gross	\$105,750
Required rent schedule to produce necessary gross at 93% occupancy	113,708
Necessary monthly gross schedule	9,476
Necessary monthly rent per unit.	\$94.76

*Debt service computed in accordance with Sec. 207 requirements which were higher than under Sec. 608; 7% figure includes return for equity.

Sec. 207—new version

Same case (assuming constant costs), assuming investors are willing to have investment returned over five years before taxes:

Assume 20% cash investment and assume 20% return on investment. Such return would recapture the investment in five years without tax on return. Taxes, however, would prevent such recapture and actual period of recapture would depend on tax positions of corporation and owner. 100 units, 450 rooms. Cost of \$9,000 per unit.	
Total	\$900,000
Mortgage 80% of cost	720,000
Cash equity	\$180,000
Operating costs \$60 per room per yr.	\$27,000
R. E. taxes \$25 per room per yr.	11,250
Replacement reserve \$10 per room per yr.	4,500
Total	\$42,750
6¾% debt service on \$720,000*	48,600
20% on equity of \$180,000*	36,000
Required annual gross	\$127,350
Required rent schedule to produce necessary gross at 93% occupancy	136,935
Necessary monthly gross schedule	11,411
Necessary monthly rent per unit.	\$114.11

*Debt service computed in accordance with Sec. 207 procedures; return to equity shown separately.

Experts urge simple new yardstick

Photos: Alexandre Georges



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to show if house is built to save heat

At the invitation of HOUSE & HOME 37 key architects, heating engineers, builders, housing officials, and interested manufacturers met to consider a notable proposal—a simple index figure which would make it easy for any home buyer to make thermal comparisons and see which house is best built to keep out the cold and keep fuel bills low. This index was developed by F. W. Hutchinson, Professor of Engineering at the University of California.

The Round Table was almost unanimous in its enthusiasm for the proposal and in recommending it for early approval and acceptance by all associations and government agencies concerned with better housing, including specifically FHA and VA and also AIA, NAHB, ASHVE, ASRE.

A few of the panel's enthusiastic comments are reported under the photographs. Below is Professor Hutchinson's proposal:



F. W. Hutchinson, 44-year-old professor of mechanical engineering at the University of California, ranks as one of the country's top authorities on heat flow. He has written booklets for industry, five engineering textbooks (three as coauthor), over 100 technical papers and has made studies on heating and cooling in some 33 countries throughout the world. In US housing, Hutchinson is known especially for his postwar development work on radiant heating.

Known also as a mathematician with "the rare ability to reduce complex theory down to practical working equations," he has served as a consultant to such industrial kingpins as Libbey-Owens-Ford, Minneapolis-Honeywell and Revere Copper & Brass. His latest work, published here, has already won plaudits from experts who call it "one of the greatest ideas yet in home heating." It has enormous potential value to everyone concerned with homebuilding.

A proposal for a thermal construction standard

by F. W. Hutchinson Professor of Mechanical Engineering, University of California, Berkeley, Calif.

Lack of an adequate thermal standard for houses is causing a multimillion dollar loss to conscientious architects, builders and heating engineers, as well as to countless American home owners.

Lack of such a standard is encouraging the use of shoddy, thermally inefficient building materials and thereby reducing the market for quality products, whether insulation, glass, roofing or window frames.

This lack favors the less competent architect at the expense of the more competent; it gives more sales to the less scrupulous builder by making the scrupulous builder face ridiculously unfair competition. It penalizes the skilled heating engineer and favors the rule-of-thumb designer. And it adds to the financial burden of the home buyer, not merely for a brief period, but throughout the entire life of his house.

Everyone agrees that an uninsulated house, lacking weatherstripping and with single glazing, will be costly to keep at a comfortable temperature. Everyone agrees that insulation, double glazing, tight construction, and weatherstripping will make the house more comfortable at less year-to-year expense.



In Texas, this 1,200 sq. ft. Air-Conditioned Village house has a 3.9 HEF based on a 50,700 Btu per hour heat loss at 20° outside temperature. Although ceiling has 3 7/8" of insulation, walls are lightly insulated (.23 U) and slab lacks edge in-

sulation. House has large 28.5% area of single glass, whereas 15% glass would give a 4.6 HEFg and thus a .7 Glass Correction Factor. Heating bills, however, should be moderate because HEF can be lower for houses in the South.

PROPOSAL *continued*

Needed: a thermal standard for every house

But until we can all agree on a standard of thermal construction, how can an architect or a builder justify the extra cost of optimum insulation? (Today, competitors using minimum insulation can nonetheless advertise their homes as "fully insulated.")

How can the architect show his client that the added hours needed for good thermal design represent dollars well spent?

How can the builder of quality houses demonstrate that his effectively insulated quality house is thermally superior to the "fully insulated" house of poor thermal construction?

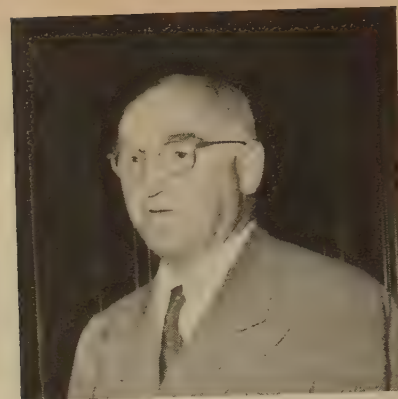
How can the heating engineer and the heating contractor show that high heating costs result from a good heating system in a thermally poor house just as readily as from a poor heating system in a thermally good house?

How can the manufacturer of an excellent insulating material show the consumer, in simple terms, exactly what its value would be in the consumer's *particular* house?

Most important of all, how can the prospective home owner determine, *in advance of purchase*, whether a house will retain the heat required for comfort, or—sieve-like—dissipate excess heat and excess dollars through the walls, the floor and the roof?

Unfortunately, there is now no simple answer to these questions. Hourly heat loss is, of course, an indication of seasonal fuel costs, but heat loss varies with the size and location as well as with thermal "quality." What is needed is a simple standard that will permit direct comparison of thermal quality of any two houses, regardless of differences in their size and regardless of the fact that one of them may be located in Maine and the other one may be in California.

What the house buyer needs is a simple integration of the different thermal conditions in each house to give a single number that can be used directly to compare that house thermally with other houses that may differ in size or location.



Charles S. Leopold: The problem is to evaluate the added cost of proper insulation.



Jack Kice: If we had something like this rating on blueprints it would help a great deal. There's no question about its importance.



Tyler S. Rogers: This is a great idea—one of the hottest ideas that has come down the line.



High HEF of 8.5 for University of Illinois test house means low fuel bills: house can be heated and cooled anywhere in US for less than \$150 a year, University study shows. Chief reasons for high HEF: 3" wall insulation, 4" over ceiling, double

glass. Without insulation HEF drops to 3.13 and heating costs triple. Total heating and cooling would run from \$250 to over \$400 a year, depending on location. Yet total cost of insulation is estimated at "less than \$240."

How to find the HEF of a house

Example: one-story, 1,040 sq. ft. University of Illinois test house (left). The basic equation for all houses is

$$HEF = \frac{A_t (t - t_o)}{Q}$$

A_t equals the total "shell" area of house.

t equals desired interior temperature.

t_o equals design value, outside winter temperature.

Q equals the total heat loss.

For this house, the total exterior walls, glass, floor and roof add up to an A_t of 3,201 sq. ft., the desired inside temperature is 75°, the outside winter temperature is -10° and the heat loss is 32,000 Btu's per hour.

$$\text{Thus HEF} = \frac{3,201 \times 85}{32,000} = 8.5$$

Now this 8.5 HEF is for the actual house (left) with 273 sq. ft. of glass (24.3%) in its walls. If the house had 15% glass the heat loss would drop to 28,000 Btu's. This is easily calculated by simply changing two steps in the original heat loss figures. The Heating Economy Factor, HEFg, for glass is then equal to $\frac{3,201 \times 85}{28,200}$ or 9.1. The Glass Correction Factor, Gf, is found by simply subtracting the actual HEF from HEFg: $9.1 - 8.5$ and the result is a Gf of .6.

■ In order to permit fair and accurate HEF comparisons the heat loss, Q , should be calculated by the methods of the ASHVE GUIDE.

The basis for a simple standard is already in widespread use

At some point in the design of any house it becomes necessary to determine the size of the heating plant. Since size depends on capacity, it follows that the architect, or engineer, or heating contractor must calculate the total hourly rate of heat loss which occurs by transmission through the floor, walls, and roof and by infiltrations through cracks around doors and windows; this quantity of total heat loss is denoted by the symbol Q . The heat loss is based on design conditions; thus with t as the room air temperature and t_o as the design value of the outside air temperature, the heat loss, Q , will depend on the air-to-air temperature difference, t minus t_o ($t - t_o$).

Now let A_t represent the total external surface area of exterior walls, glass, floor, and roof—the "shell" area of the house. From the three known numbers indicated by A_t , Q , and $t - t_o$, we can establish a simple and easily computed standard, the "Heating Economy Factor" (HEF), which alone will serve to identify the house as thermally excellent, good, fair, or poor. In equation form:

$$\text{Heating Economy Factor, HEF} = \frac{A_t (t - t_o)}{Q}$$

This equation offers these clear advantages:

1. The rating for virtually all structures will have a numerical value between 1 and 10.
2. The lower the value the lower the thermal economy of the construction; the higher the value the higher the thermal economy.

Although the HEF as defined above is a new term, it is new only with respect to the generalization and interpretation of information which is already known. In effect, the HEF is just a new method of "packaging" the end result of otherwise necessary calculations; its intent is to provide a means of interpreting complex engineering data in terms which will have meaning to the consumer. In purchasing an automobile the prospective owner knows the term "gasoline mileage" even though he may not know *why* it is what it is; in purchasing a home the prospective owner might likewise be interested in the Heating Economy Factor.



Walter A. Taylor: We're on the track of something pretty important. My only note of caution is that it be kept as an economy measure of thermal rating only.

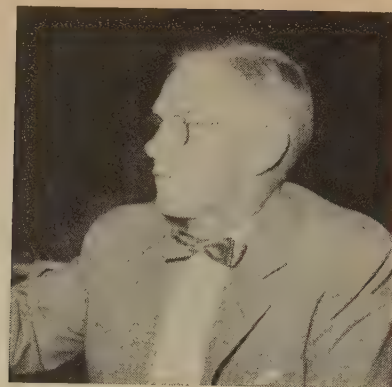


Fred McGhan: But we must develop one acceptable method of calculation for total heat loss.



Minneapolis house has high HEF of 9.3 because of low 40,000 Btu heat loss, despite -20° winter temperature and large (28%) glass area. This shows glassy houses can have low fuel bills in cold climates—as low as \$84 a year for this 1,250

sq. ft. house, according to Builder Robert Norsen. Reason for high HEF: 6" of roof insulation, 3" in walls, double glazing for all windows and an insulating cork floor over the slab. The HEF that results really pays off for the owners of the house.



William H. Scheick: Our job is to get it simple enough so that the home owner will accept it easily as a yardstick just as he accepts the yardstick of horsepower in a car.

PROPOSAL *continued*

How to give credit for large areas of glass

The Glass Correction Factor. The basic equation for HEF is open to only one major criticism. The cheapest way to get a high rating is to reduce the glass area, since heat transmission through single glass is about ten times the heat transmission through a well-insulated wall, and even with double glazing, it is roughly five times as much. To deliver builders from this temptation, it seems desirable to have a glass correction factor, to let the builder show, for purposes of comparison, what the HEF of his house would have been with 15% glass in the walls (a fair norm, a little below average).

To determine the Glass Correction Factor, G_f , the designer would simply go back to his original calculations and compute what the total heat loss, Q_g , of the house would have been with 15% glass in the walls. Q_g is then divided into the figure $At (t-t_o)$, as before, to get HEF_g —the heating economy factor if the same house had 15% glass. By subtracting the HEF of the actual house from HEF_g you get the term G_f —the Glass Correction Factor. Thus, if each set of house plans showed the two numbers

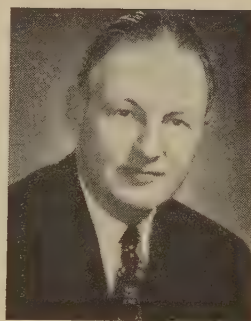
HEF and G_f

the architect, builder, engineer, and prospective owner would each have full information as to the thermal adequacy of the structure and how far this was affected by the added glass area the owner liked so much.

The general acceptance of HEF as a thermal construction standard would permit direct comparison of the thermal characteristics of structures without respect to their relative size or their geographical location. A high value HEF means good heating economy (low operating cost) regardless of whether the structure is a one-room home or a 200-room hotel, regardless of whether it is located in Maine or California. Once the HEF has been determined, the structure is graded as thermally poor, fair, average, good, or excellent.

A similar cooling economy factor is even more badly needed, and as soon as there is more general agreement on how to calculate the heat gain of a structure during the cooling season, the same equation used to develop the heating economy rating can be used to develop a cooling economy rating.

Once the HEF is brought into general use it may be possible to correlate it with the efficiency rating of the over-all heating and cooling system and the distribution system into a single all-embracing standard.



William Gillett: Is it possible to segregate wall openings and rate them by themselves?



Leonard Haeger: A very sound idea. We're talking about more than just insulation. It's quite possible now to fulfill FHA requirements and still end up with a house that is either uncomfortable or uneconomical to heat.



Two-story house by Architect Carl Koch has HEF of 3.2, based on 92,000 Btu heat loss in Boston. Estimated heating costs: "\$160 to \$200 a year." Exterior walls are 31% single-pane glass; with only 15% glass, HEFg would be 4.5. Koch says big

glass end, right, is always oriented to warm winter sun and "good curtains are more effective than double glazing, which will not pay for itself during life of mortgage." Some engineers, however, disagree.

The standard would greatly help FHA and VA throughout the country

Regional optimums and regional minima. One important implied value of the HEF is that it could be used effectively to broaden present Federal Housing Administration and Veterans Administration requirements with respect to minimum thermal effectiveness. Recent trends indicate that both these agencies would prefer to broaden their help to the home owner by encouraging better thermal quality rather than merely policing to protect the home owner from thermally unacceptable construction. If the concept of HEF were to be adopted for this purpose, a first step would be to carry out a statistical regional survey to determine acceptable minima of the HEF for use in preventing poor construction; the corollary would be establishment of regional HEF ranges which would then assure the home owner that his house was not merely acceptable but that it represented average, good, or excellent thermal construction for his section of the country.

The time and cost of such statistical surveys would be insignificant in comparison with the return not only in dollars, but also in comfort and satisfaction to the home owner.

Benefits. A suggestion is made for general adoption of a proposed simple rating number, the Heating Economy Factor (HEF), which would serve as a thermal standard. Such a standard would help architects and builders by enabling them to demonstrate to client or prospect the economic advantages of quality construction. The HEF would expose the hidden cost cuts which so often make it hard for the consumer to distinguish the well-built quality home from the house which just meets minimum requirements; it would enable the supplier of thermally effective building materials to show by direct comparison—right on the house plans—the difference between, for example, inadequate insulation and effective insulation; it would permit the home owner to see in round numbers the thermal advantage—for *his* house—of double glazing, or of weatherstripping, or of other differences in its particular construction.

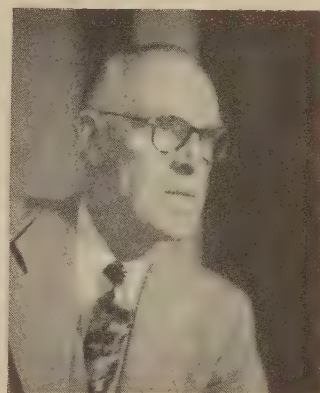
Adoption of such a recognized thermal standard would benefit everyone in the housing business who conscientiously seeks to provide good value to the consumer.



R. K. Thulman: We welcome this proposal for educating the consumer. FHA should include it so that the cost of better insulation is recognized in valuations. . . .

Any 1,000 sq. ft. house can be so constructed and so insulated that the cost of heating and cooling it should not be more than \$10 a month. . . .

The Heating Economy Factor is a significant forward step toward a more economical and comfortable house.



Doremus Mills: This is a protection for the home owner. He has a right to know. It should also be a wonderful selling point for the builder. Optimum insulation is not the objective. This is simply a method of rating and comparing thermal capacity.



Charles Bowser: FHA would be tickled to death if such a rating could be arrived at. Our appraiser could then give a higher valuation to the house with a more economical heating factor and it would be a more marketable house. Our objective is to increase the quality of the homes and reduce the expense to the buyer. This proposal would certainly be important to the home-buying public.



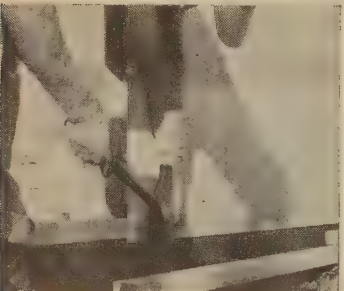
Photographs show how a good prefab system can speed up erection, even in single houses.



After honeycomb panels have been delivered, each is lined up on a 2' x 3' plate.



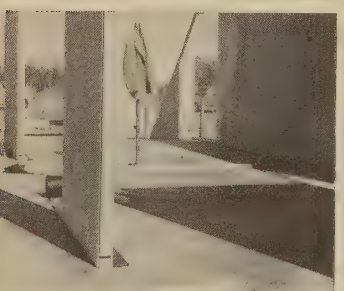
Panels are cupped open $\frac{3}{4}$ " at one end to grasp projecting stud of next panel (see detail).



Exterior plywood overlaps plate by $\frac{3}{8}$ " for fast nailing. Each wall panel weighs 86 lb.



Same panels quickly line up on inside rails for interior partitions.



Open chase at top and bottom of panels provides double tunnel around house for quick, convenient wiring.



Rigid roof panels weigh 120 lb. each, span 12' with no more than "usual deflection" under load.



At day's end whole house is closed in—convincing evidence that prefabrication is a natural even for one-time structures.

Paper prefab is strong,

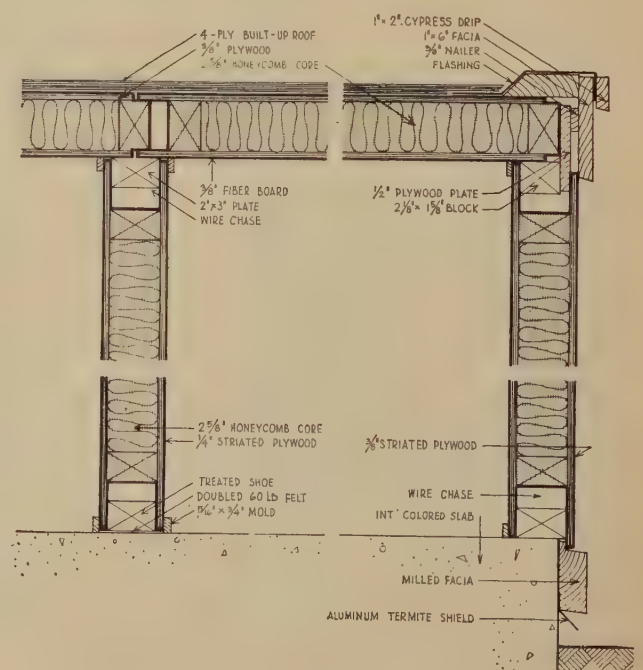
A stiff honeycomb of paper has amazing strength and durability, already proved in structures like airplane bulkheads which really have to be strong.

How the lessons learned in the air can be applied on the ground is shown by this Florida house which went up for \$8.50 a sq. ft.—remarkable for a one-house-at-a-time price. Prefabbed honeycomb panels, 4' x 8' units for walls, 4' x 12's for the roof turned the trick.

The panels are made locally with a core of $2\frac{5}{8}$ "-thick paper honeycomb, which is bought in thin, collapsed sheets for about \$500 a ton. The sheets are expanded and glued to the inside face of a sheet of plywood. Then the other side of the sandwich is glued on, using a hot press, and both sides are also nailed to an edge-frame of 2" x 3"s. All this is done on jigs to assure a flat and true panel. Details and all dimensions are shown below.

A $2\frac{5}{8}$ " honeycomb core with a $\frac{3}{4}$ " air cell gives the walls a U factor of .12, the roof .11, according to the fabricator. This is as good as a regular frame house with 2" of bulk insulation in walls and roof. Other panels can be made with even better U factors by 1) using a slightly thicker core, or 2) filling the core with a granular material like perlite.

Impregnating the honeycomb with a phenol resin gives high resistance against bugs, moisture and rot. As for strength, honeycomb panels tested by the army have withstood an 80 lb. per sq. ft. roof load, which is equivalent to 13' of snow, and a side load of 60 lb., equivalent to a 150-mph hurricane.



well insulated and cheap



LOCATION: Sarasota, Fla.

PAUL RUDOLPH: architect

UNION BAG & PAPER CORP., honeycomb core

CLIMATE CONTROL, INC.: panel fabricator

This neat little house by Architect Rudolph is an excellent example of how structure and design can work together to produce a handsome product at low cost. The walls and roof—about 2,500 sq. ft. of structural honeycomb panels—went up in one day at an erection cost of 4¢ a sq. ft. (54 man-hours). The 35 wall panels were made for 81¢ per sq. ft. and the 29 roof ones for 75¢—the cost varying because different surfaces were used.

Honeycomb is used throughout the house: even the doors and interior partitions (except for wet-wall stud partitions) were made of it. Wiring is quickly threaded through a 1" chase left open at the top and bottom of each panel. The honeycomb's final advantage: good sound absorption.

The key to any good paper house is how well the panels are designed and fabricated. These panels are the end product of extended research by the local maker, who emphasizes strongly that the right kind of glue and special equipment like a hot press are essential for a rugged panel.

The future looks so good for paper houses that several big firms will introduce new honeycomb products soon and experts predict that present sales of 1.25 million board feet a year will skyrocket to about 10 million a year by 1960.

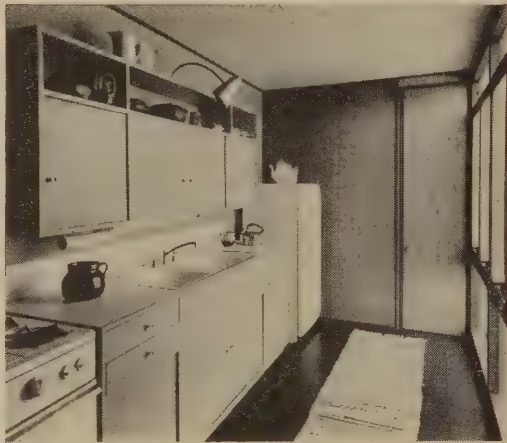


← **Sheltered entrance** provides cool and inviting path to house. Joints between panels do not show because of striated plywood exterior.

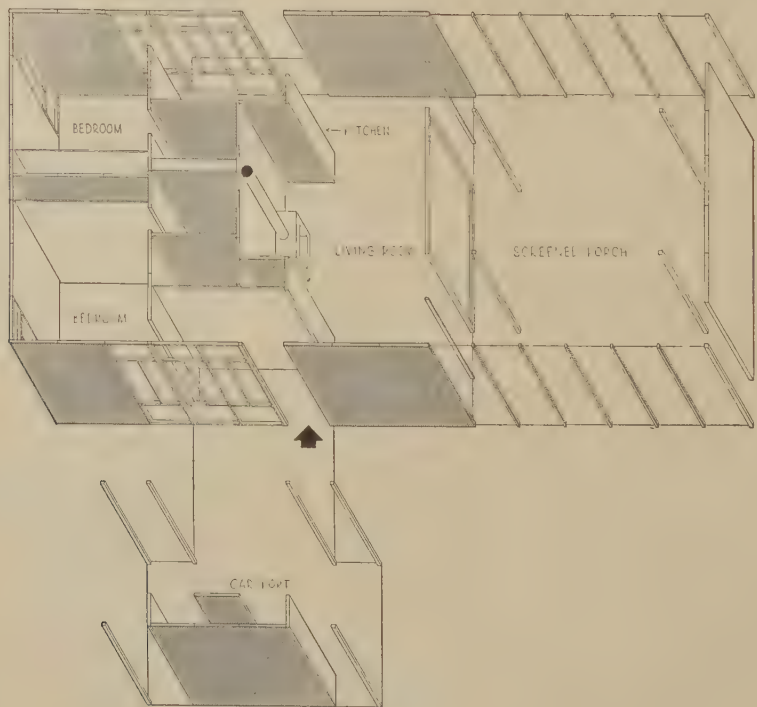


← **Interior partitions** are also honeycomb panels, as shown here in living room. They give uniform finish inside and out, throughout the house.

Photos: Lionel Freedman

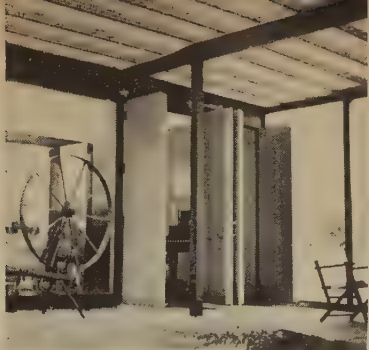


↑ **Compact kitchen** is flooded with light from floor-to-ceiling glass. Wall cabinets supply open and closed storage. All surfaces are easy to maintain.



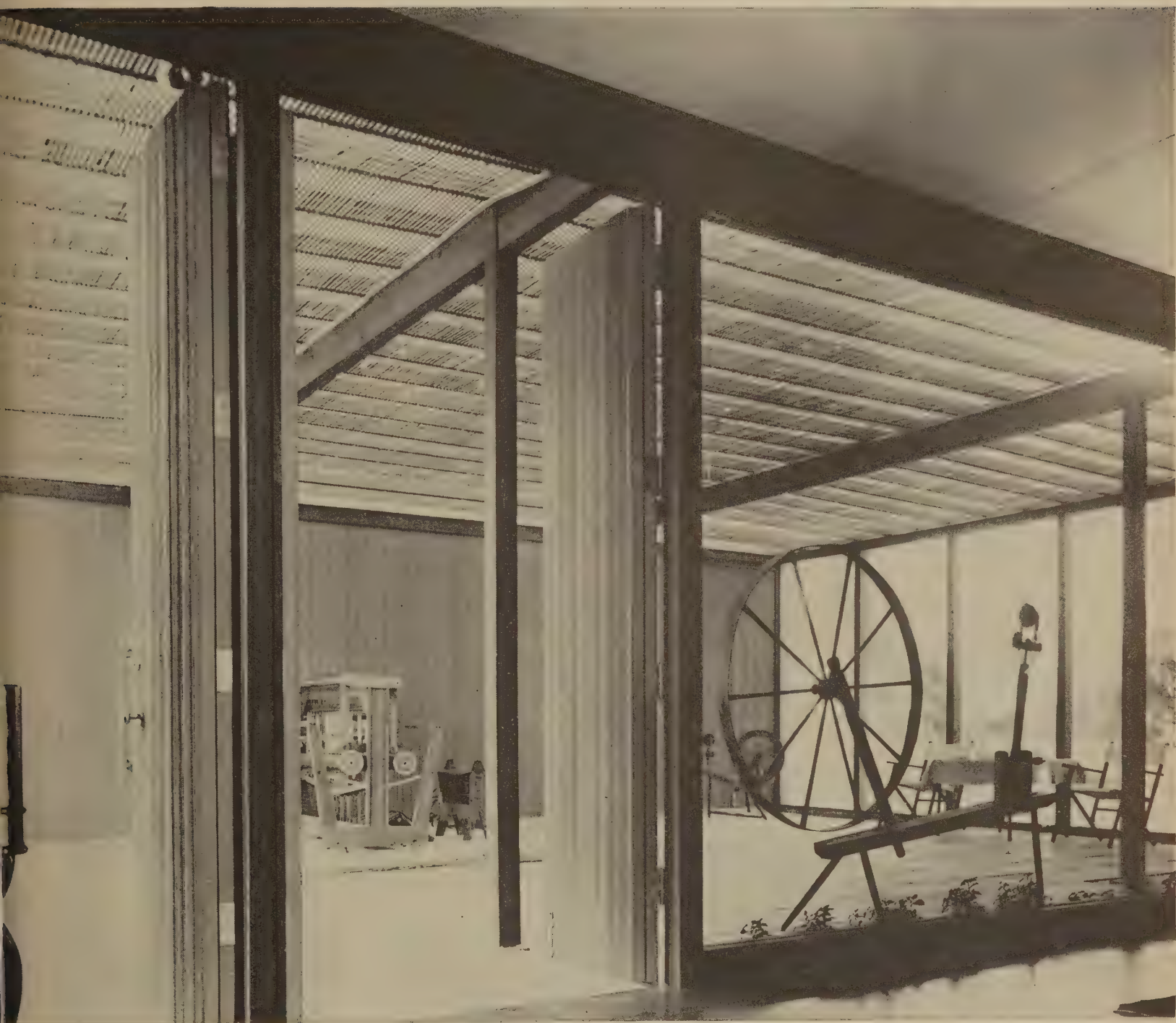
← **Unusual plan** is free of the forest of studs found in houses with conventional framing; this structural system only uses a vertical panel spline every 4'. The plan was tailored to the needs of an elderly woman and her companion. Basic house of 1,010 sq. ft. is trisected into three 12' zones: bedroom strip on the left, utility core down the middle, living room on the right—this latter space flanked on its right by screened and roofed patio.

Modular panels give



Sky curtain, under ceiling of screened patio, was made by owner whose avocation is weaving. Protected patio—popular in Florida houses—is 675 sq. ft. of bonus living space at less than \$5 a sq. ft.

Photos: William Amick



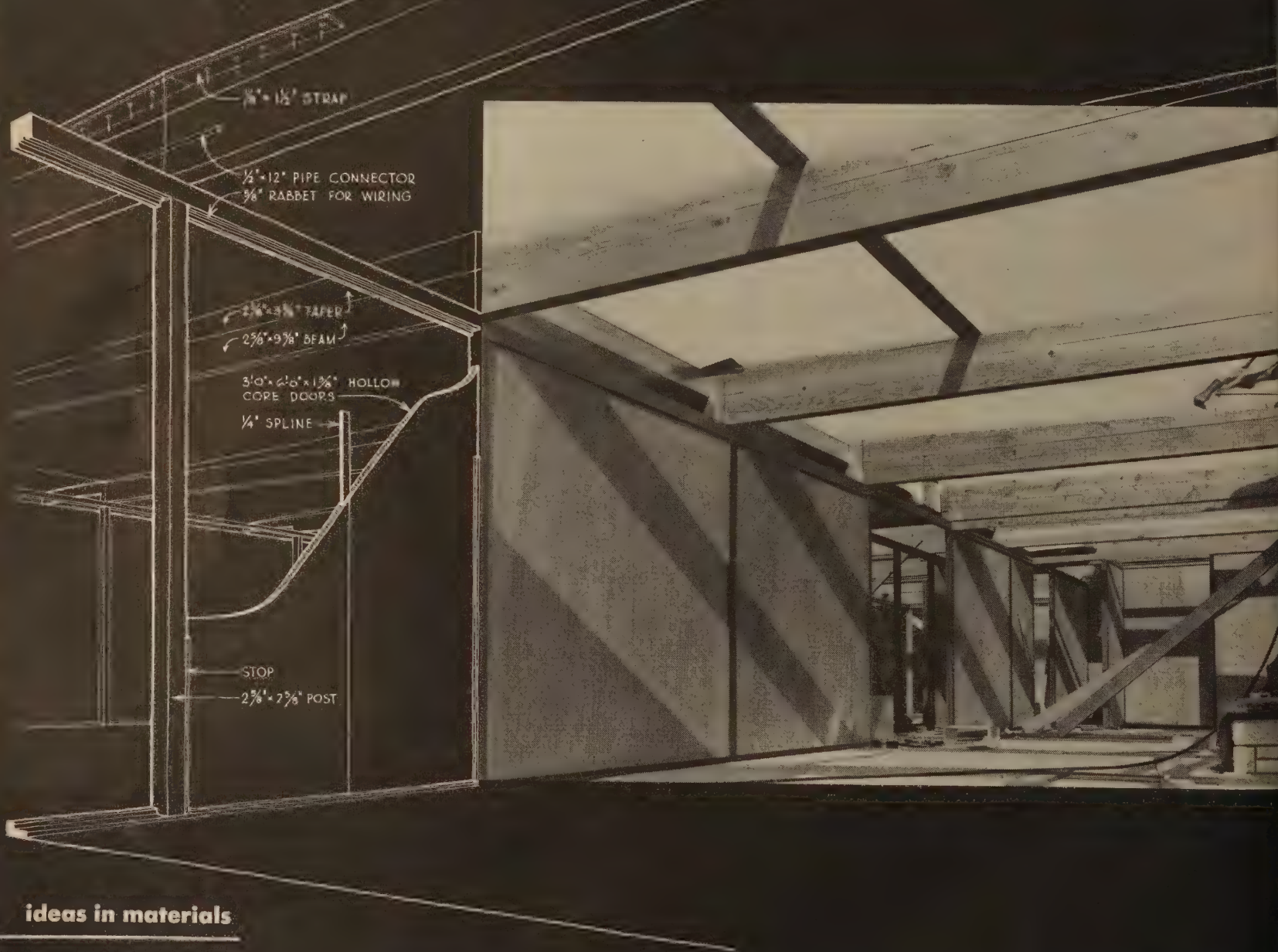
paper house handsome appearance inside and out

interior walls

Laminated beam of which left half is being pushed into position against right half. Note $\frac{1}{2}$ " x 12" pipe connector. New-type beams are of 2 x 4's laid flat and glued as below, rather than as in large photo. Ridge joint is later toenailed.



Rich wood panels are framed by exposed roof and wall structural members. Many builders have considered using doors for interior partitions and photo shows one way to do this. Wiring is in concealed raceways in posts and beams.



ideas in materials

In California, slab doors become prefab

LOCATION: Los Angeles County Fair, Pomona, Calif.
HENRY C. COX & AFFILIATED CO.'s: developers and builders

A headliner at the Los Angeles County Fair last fall was a house built of flush doors. Called the "Panel-aire," it used one of the few building materials that has not risen in cost in recent years.

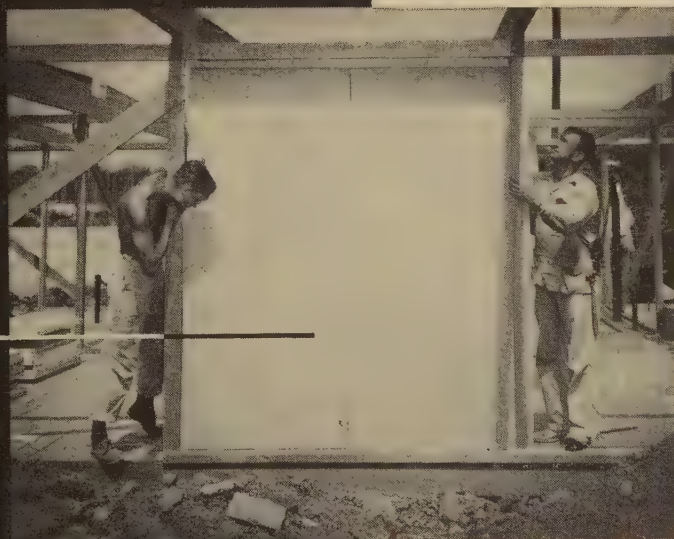
The slab-door house was developed by Big Builder Henry C. Cox who had built two earlier experimental models. Reaction from South California builders was so favorable he plans to sell the house as a prefabricated package when he gets FHA approval. Cox claims his method of building is 10% cheaper and 60% faster than conventional systems.

Panels, as shown in the photographs, are made of a pair of doors each 3' wide and 6'-8" high which are joined by a hardwood spline, for which Cox has patents pending. This panel is set between posts and beams to form both ceilings and walls. A $2\frac{5}{8}$ " x $3\frac{5}{8}$ " plate raises beams 7'-3" above the floor. Ceiling height is 7'-8" at outside walls, about 8' at the center ridge. Interior faces of the panels are mahogany, exteriors are pressed fiberboard. Except for an enclosed $\frac{3}{8}$ " of fiberboard insulation, these are standard doors made on standard presses. Their insulating U-factor is 0.33.

The bottom of the exterior panel is in mastic, secured by a wood shoe, while a $\frac{1}{2}$ " x $\frac{5}{8}$ " molding closes the other three sides.

Some visitors pointed out that the all-wood construction, though excellent for interior partitions, might present shrinkage problems when used on the exterior. For interior use, no other system of panels on wood framing could approach flush doors in cost.

exterior walls



Two men quickly place panel against pre-milled interior stops, then nail exterior molding. Laboratory tests showed this panel provided good diagonal bracing.

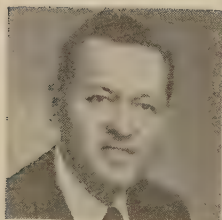
Photos: Robt. C. Cleveland; Nelson



In exhibition house all painting and finishing was done at the factory except for lacquer touch-up on the job. Module of house was set by the 6'-wide panels and the width of stock sliding glass doors.

panels

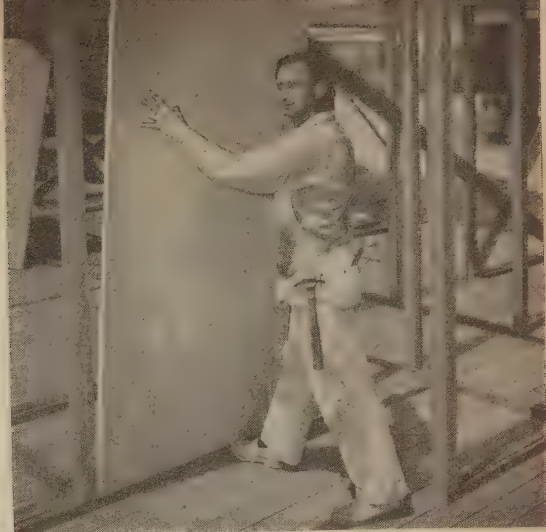
NEW PRODUCTS



Herman H. York, Jamaica, N. Y. architect: "Corrugated reinforced plastic sheets have provided design opportunities for me in carports and patios, as space dividers in open-planned houses, and as solar control in overhangs above windows and doors. They also provide translucent material for kitchen down-lighting."



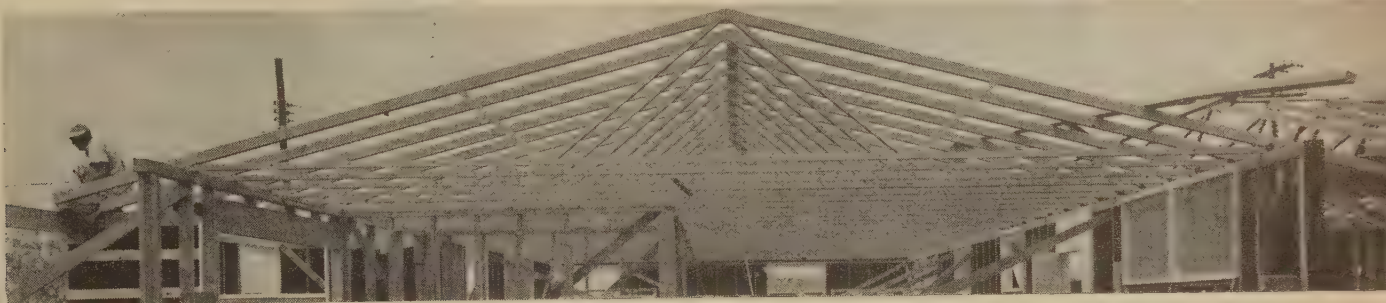
John R. Worthman, Fort Wayne, Ind. builder: "We've learned the appeal of structural beam ceilings; triple-purpose roof decking is the most practical and economical way to build them. Decking, insulation and finished ceiling go on in one operation, and an effective vapor barrier is integral."



W. A. (Alex) Simms, Dayton builder: "Polyethylene film really solves our slab vapor-barrier problems. The film doesn't puncture if walked on, it goes down fast in big (up to 20' widths) sheets, has a high perm rating and costs no more than other products. It is a perfect example of a new material meeting an old need."



Henry C. Cox, Garden Grove, Calif. builder: "Mahogany-faced flush doors are saving us 10% in construction costs (p. 148) when used as wall panels. All our framing, including panels and doors, took only six working days by two carpenters."



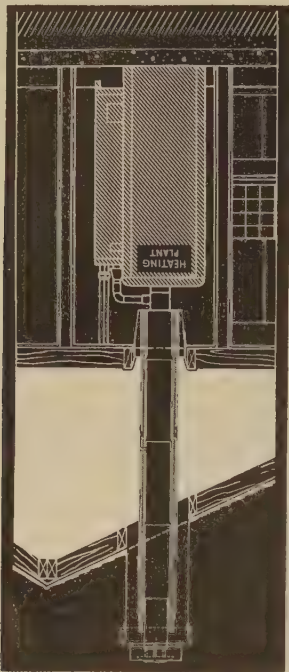
C. Allen True, Fort Worth builder: "Steel roof trusses assure us that there will be no cracked ceilings, regardless of temperature, unequal loading, or varying humidities. These trusses are light in weight and economical to erect, and provide sales appeal, since the structural qualities of steel are well known."

"My favorite new product"— picked by men who use them

Builders and architects select the ideas and items they found most valuable among 1954's hundreds of new and improved products

The proof of the product is in the using, and the products on these pages have this in common: they have all performed successfully under the rigorous conditions of production building. All have survived the intense competition of the flood of new products (H&H devoted over 122 columns in 1954 to reviewing the most significant).

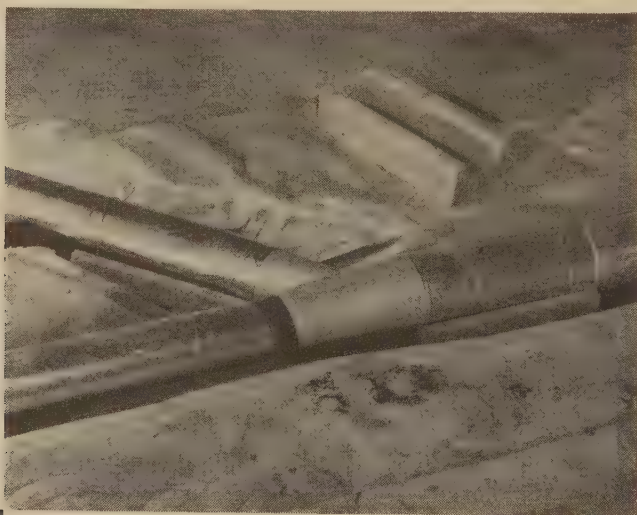
To round up the items on these pages, H&H queried a cross-section of the homebuilding field: "What is the best new product **you** found during 1954?" The answers included a wide range of products that had contributed to better houses, improved design, or more versatile components. These then are the men-in-the-field's "best new products of 1954."



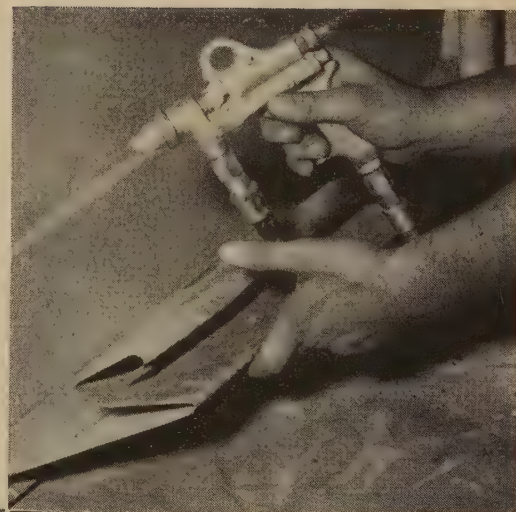
John D. Harrison, Detroit builder: "In our one-floor house, space is valuable. A prefabricated chimney that can be hung from the roof and needs no foundation eliminates the cost and saves the floor space of a brick chimney, enabling us to put the water heater in the area saved. Our customers don't even miss the old chimney."



Al Balch, Seattle builder: "Resin-faced plywood siding looks like a wide clapboard, with its deep horizontal shadowline, but has plywood's structural qualities. It is factory-preprimed, and the resin facing gives a 'tooth' which permits the application of a perfect coat of paint."



Don Scholz, Toledo prefabricator and builder: "We were always plagued by perforations in our vapor barrier caused by the stakes that support our perimeter heating ducts. Now we use a precast concrete cradle that supports the ducts, without any damage to the membrane, while the concrete slab is poured around them."



Elbert L. Fausett, Little Rock builder: "Sprayed, multicolored paint goes on fast and easy, has solved all of our painting problems. Our customers are mainly families with children, and the practically indestructible finish goes over big. Over 90% of our buyers choose it."



Alan E. Brockbank, Salt Lake City builder: "Plywood itself has been a notable contribution to mass production, but the lack of texture has always been a drawback when it was used as an exterior surface. The new grooved plywood (p. 158) provides a material with all the normal qualities of plywood, plus a pleasing appearance."



David W. Fentress, Norfolk builder: "Electric radiant heat (p. 154) looks like an important new development. It is economical to install, has a wonderful appeal to the customer, and we are getting complete cooperation from our local utility in solving the problems connected with adopting a new product. Most important, we are gathering evidence that this heat need not be expensive to operate, when proper and sufficient insulation is installed."

continued on p. 194



Continental Glassheat



Good heating practice puts radiant glass panels under windows in Detroit houses

Ideas for heating

Electric heat... can the builder

**The facts and the myths,
the questions and answers,
on this controversial
competitor for the
builder's heating dollar**

What is the newest development in electric heating for houses?

The attitude of many electric companies has switched from disinterest, even antagonism, to the active promotion of electricity as a heat source.

Why has this attitude changed?

The continuing boom in home air conditioning (almost 100,000 central cooling systems went into homes in 1954) has given many utilities a badly unbalanced summer peak load. Their facilities are geared to the peak, and costs rise rapidly when their equipment is not kept at work most of the year. Also, electric lines and transformers are far more efficient in winter, when ambient air temperatures are low, thus reducing the extra equipment thought necessary to service the added load.

Can production builders use this heat?

In such widely scattered places as New Jersey, Michigan, Indiana and Virginia (all have private utilities), production builders are installing electric heat in their projects. In Fort Wayne, Ind., John Worthman said: "We are convinced that, with our 11½¢ per kw rate, residential electric heat is now very practical, and can be marketed in homes of all price ranges."

What does electric heat cost to install?

Costs vary, but best estimates put installation in new construction at \$35 to \$60 per kw, which means that heating for a 1,000 sq. ft. house would run \$450 to \$750 (including individual room thermostats), depending on the local climate and the type of system selected.

What are the advantages of electric heat to the homebuilder?

The house gets closed in faster. (Builder Bert English, who built a 34-house project in Atlantic City in 1951, estimated that he was able to begin his finishing operations seven to eight days faster.) The cost and floor space of a chimney are eliminated. If a slab is used, there is no delay while perimeter ducts or radiant piping is placed in position. Finally, immediate heat is available, to speed painting, plastering, etc., in inclement weather.

How can heat loss be calculated?

The utility company or an electrical engineer will calculate heat loss for any house, using a locally applicable formula.

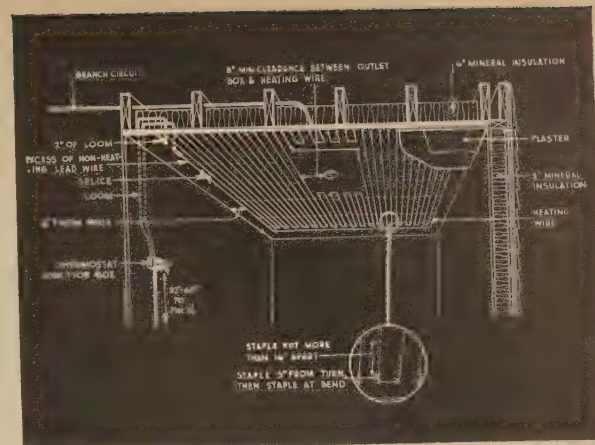


Stapling gun fastens heating cable to ceiling before it is covered with plaster or

second layer of dry wall. Circuit connection is seen at wall-ceiling junction.

Conductive rubber panels, only $\frac{1}{8}$ " thick, are attached to new or old ceilings by adhesive, below. Raceway molding at

edge of ceiling carries circuit and connections to panels. Rearrangement of carbon molecules makes rubber conductive.



Cross section of buried cable method shows how cable is spaced to give even temperatures (120° to 140°) throughout ceiling area. Cable for entire house goes up in five hours.

What change does electric heat impose on the construction of a house?

Just one—*insulation*. Electric heat is pure energy, and heat losses are expensive. Current insulation requirements for cold regions are: at least 4" in ceilings (6" is better), and $3\frac{5}{8}$ " in all exterior walls; 2" edge insulation for slabs, or insulation between the floor joists of a crawl-space or basement house; double glazing or storm windows; weatherstripping at all openings.

What will it cost customers to operate?

Degree days in a given area, local power rates, and the insulation built into the house will mainly determine this. (In Atlantic City, at $1\frac{3}{4}\epsilon$ per kw, houses were heated for \$170 to \$190 per year; an 1,110 sq. ft. house in a project near Detroit was computed by the Detroit Edison Co. to have an operating cost of \$156 per year, an independent survey of the same house put the figure at \$165.)

Is electric heat economically feasible anywhere in the US?

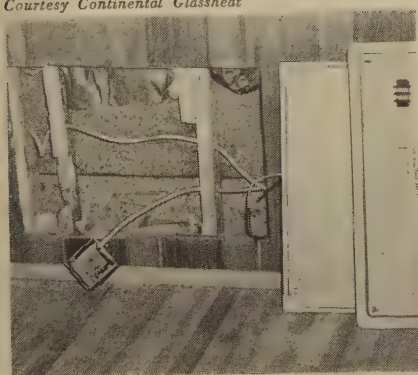
A power rate of 2ϵ to $2\frac{1}{2}\epsilon$ per kwh seems to be the breaking point. Above that, the operating-expense would be too high for most people. Below that, electricity might be competitive, depending on the local cost of other fuels, or the buyer's willingness to pay some premium for this system. Below $1\frac{1}{2}\epsilon$ per kwh electricity can compete almost everywhere.

What kind of a system is best?

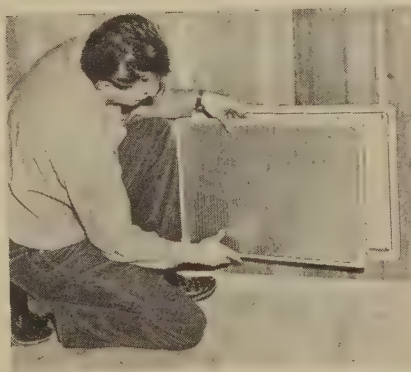
There are four to choose from: 1) electric cables buried in the ceiling (plaster or dry wall), 2) ceiling panels of conductive rubber, 3) radiant glass panels, and 4) baseboard or wall convectors. Each claims its own advantages, but regardless of claims, all forms of resistance heat produce the same energy, 3,412 Btu's per kwh.

house use it?

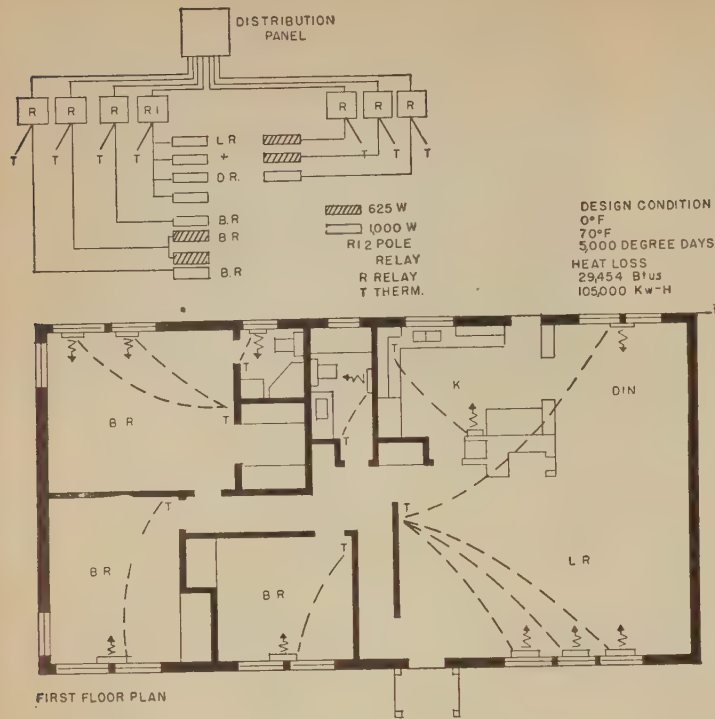
Courtesy Continental Glassheat



Simplified connection of radiant-glass panels requires only a simple splice, and attachment of reflective back to studs.



Conductive metal, fused into glass panels, acts as path for current. Baseboard units, long and narrow, are also made.



Typical wiring and circuit diagram for wall-heater system shows how all rooms are separate zones, controlled by individual thermostats, permitting varying temperatures in different rooms. When kitchen range is on, heater will probably go off; when bedrooms are unoccupied, lower temperatures will be needed. Many utilities are metering electric heat installation to determine extent and time of day of extra load on facilities, to decide whether they should adopt a "heating rate," similar to the off-hour rate now granted by many utilities for electric water heaters.

Does installation raise problems for the electrician?

No. All four systems come complete with leads connected with the heating element, and the connection is exactly the same as any other outlet. Naturally, the system will require 240-v. service throughout the house, and all manufacturers recommend a thermostat for each separate heating zone, but the units themselves are factory-wired.

What about air conditioning?

The insulation requirements for electric heat will make any air-conditioning system more efficient.

Where does the heat pump come in?

Heat pumps have the advantage of extracting more Btu's per kw than resistance heat, but at extremely low temperatures, when the need for heat is greatest, they are least efficient. Most heat-pump installations use supplementary strip heating elements to boost their output during cold weather.

What are the first steps to take?

Consult the local utility. Unless the utility is interested in adding house-heating customers to its lines, the builder cannot consider offering this feature. The utility must live with the customer and the installation so its cooperation at every step is vital to the success of the system.

Electric heat would change US roofscapes



Courtesy Atlantic City Electric Co.; photo by Syd Sloan

Chimneyless vista of 34-house project built in Atlantic City in 1951

Big brick holds big house price to \$9,950

Alan Brockbank now builds a bigger house at a lower price than ever before in Salt Lake City: a 1,121 sq. ft. solid brick house with central heating and a carport for \$9,950.

The new house took a lot of planning. "We spent more time," Brockbank says, "on plans, specifications and engineering than on any house we ever built."

Most interesting ingredient in the plan is his new brick, which is larger than SCR size (see drawing, upper right). He developed it with a local brick company. It goes up fast, lets him build solid masonry construction with a dry-wall interior.

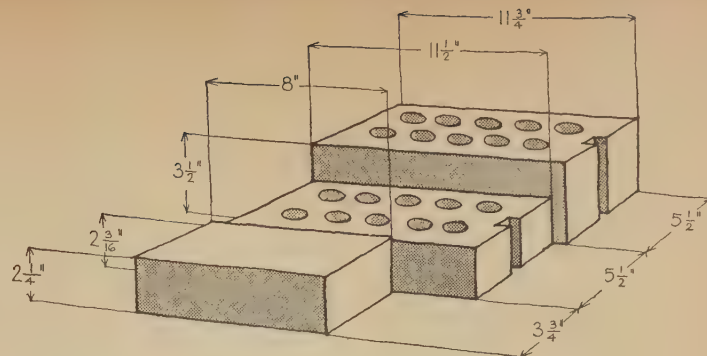
To meet a competitive situation, Brockbank wanted a brick house of around 1,100 sq. ft. and decided that the SCR principle of one solid brick wall was better than brick veneer on a wood frame. He reasoned that if the large SCR brick was better than ordinary brick, a jumbo SCR brick would be better still. The jumbo size has proved him right (see photos next page): this house is the best seller he has ever had.

Bricks are three different colors—pink, yellow, white—and also different colored mortars add further variation.

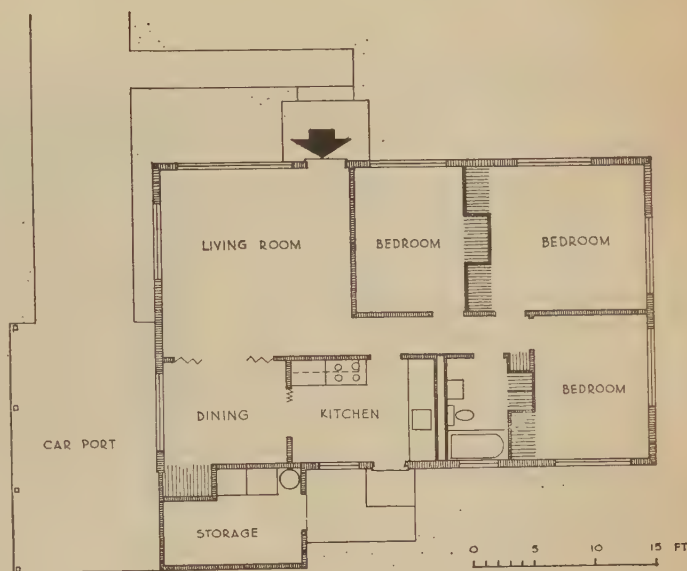
A feature of each house is a storage area of about 100 sq. ft. which also houses the hot water heater and the laundry. It is made of grooved plywood (see p. 153) which gives variation to the houses, a feature Brockbank likes.

A major decision was to build a crawl-space house with a wood floor rather than a slab house with cheaper asphalt tile flooring. His competition used slab construction so Brockbank concluded it would be a good sales feature.

Photos: C. Hal Rumel



Jumbo brick used by Brockbank is largest of three above. Ordinary brick is smallest, with SCR brick in center. Big size goes up fast, permits solid masonry house with dry-wall interiors.



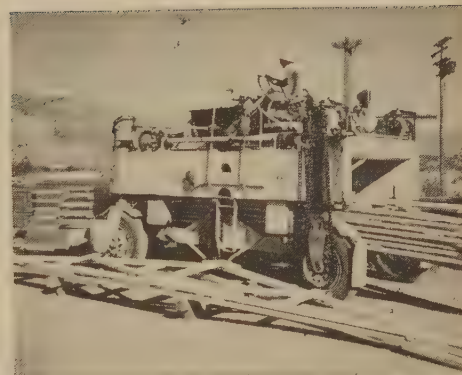
Plan above, one of five variations, is for house at extreme right in photo below. Each basic rectangle is same size, with principal variation derived from changes in carport and storage room.



Preplanned construction is orderly, economical



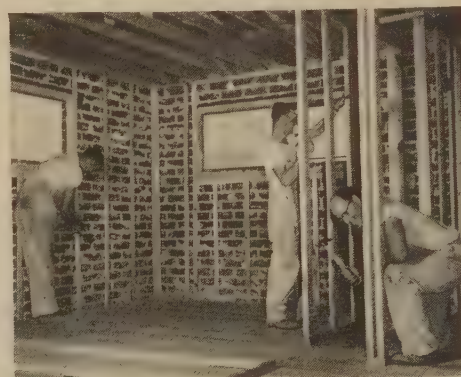
Steel straps, easily put on and cut off later, hold metal foundation forms together while concrete is poured. Wood spacers are removed and can be used again.



"Straddle bug is most useful machine I have," says Brockbank. It carries almost any kind of load, such as these trusses, from his mill yard directly to the house site.



Crawl-space house has reinforced concrete piers (poured into building-paper forms) which support two girders and wood joists. Wood floor costs more but outsells slab.



Nailing strips for dry wall are 2-ply with $\frac{1}{2}$ " asphalt-impregnated material next to brick, $\frac{3}{4}$ "-thick wood on top for better moisture barrier. Foil-backed dry wall is $\frac{1}{4}$ " from brick.



Roll-over shingles eliminate need to paint fascia, have new color pattern which makes them look thicker, with heavier shadow line. Only gutter is a short strip over front door.

In addition to the construction methods shown in the photographs, Brockbank has used special techniques worth reporting. His plywood roof sheathing is nailed to trusses with a spot nailing machine, using staples which spread out like cotter pins. Tested against conventional hand nailing, the nailing machine proved to be faster. Trusses, all the same length, are made in his yard. Gable ends are textured plywood, and they are also prefabricated by Brockbank.

Warm-air furnace is in the crawl space, below the centrally located hall. Eight radial supply ducts fan out, terminate in floor registers. Pipes warm the crawl space in winter, give some radiant effect. Crawl space has a layer of 55 lb. roofing felt over the ground.

To speed construction Brockbank uses prehung doors, sprays two coats of two-tone paint throughout the interiors and uses a double plumbing wall between the kitchen and bathroom.

Contrary to the trend to more and more subcontracting, Brockbank does as much of his own work as he can, subs out only brick laying, wiring, plumbing labor. While his trusses would permit use of the one-room system, putting up plasterboard on walls and ceilings before installing partitions, he erects partitions first because FHA, VA and the city must each make two inspections. The inspectors want to see the house with partitions in prior to dry walling.



Seven men and four helpers put up walls in eight hours, use 2,200 jumbo bricks, 150 half bricks, 300 regular bricks for window sills. Big bricks do not tear masons' hands because workers pick bricks up before they are quite dry, placing fingers over edge, thumb in middle hole on one side. This smooths gripping edge. As experiment, Brockbank built some houses with regular-sized brick, found they cost \$190 more. Bricks were developed and made by Interstate Brick Co.



Quiet house in Hanover, N. H.
designed by Architects
E. H. and M. K. Hunter.

A quiet house is a better house



Bedroom noise
is greatly diminished
by acoustical tile on ceiling.



Random pattern,
cane-fiber acoustical tile
is also used on ceilings
of bathroom and storage room.

Courtesy Celotex

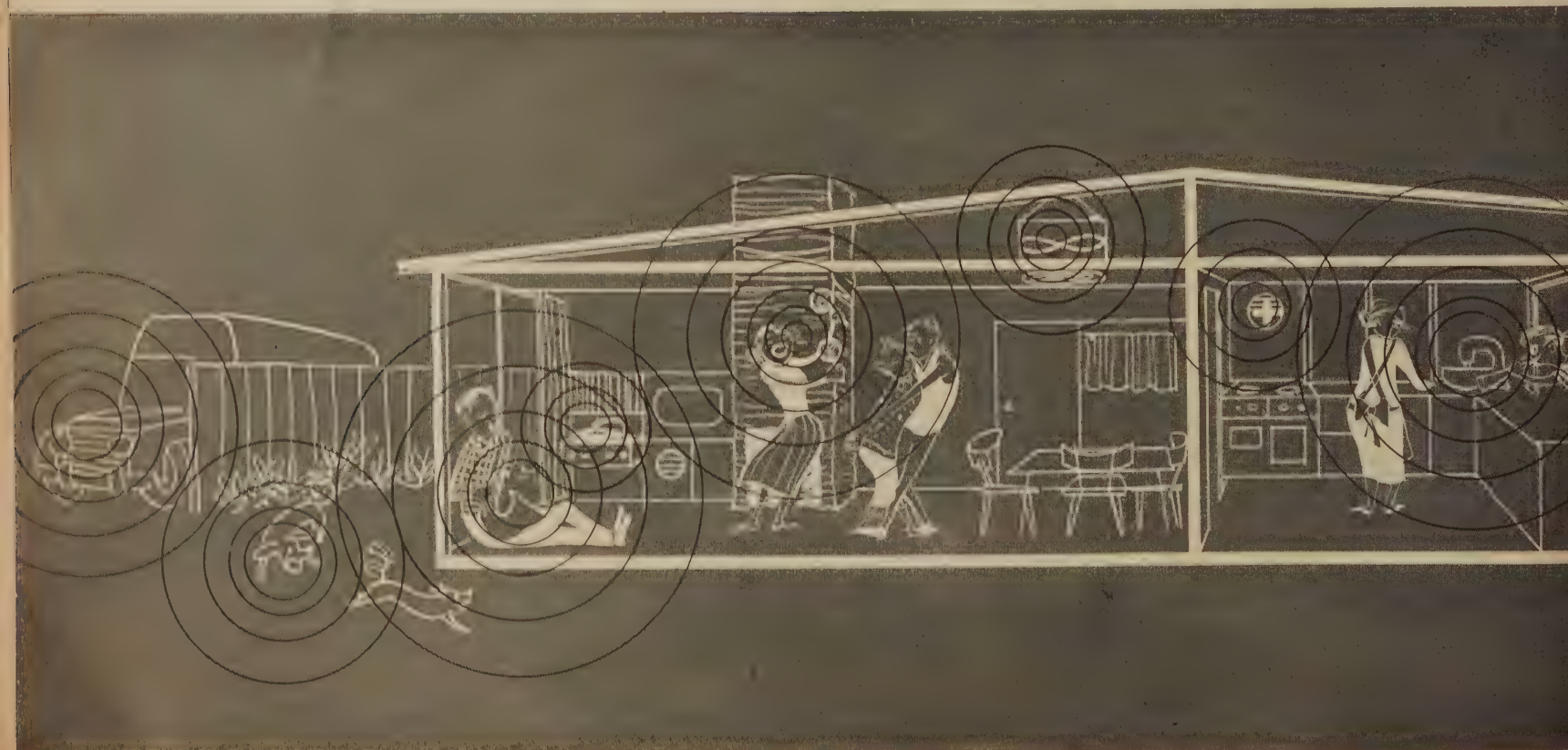
Noise is built into today's house

Houses are getting noisier, no doubt about it. But there is no real reason why they should be. The builder who realizes this first and does something about sound-conditioning will get the jump on his competitors.

Today's houses are filled with so much sound and so many kinds of sound that many builders and architects are afraid of tackling the problem of noise. Almost no science is so complex and imperfectly studied as acoustics. Many designers feel helpless in the face of its complexity. Many mistakenly think sound-conditioning means pricing a house out of the market.

It is true that today's houses are noisier than yesterday's houses. There are more noise-making machines than ever—mixers and grinders, clothes and dishwashers, vacuum cleaners and furnace fans, air conditioners and radio and TV sets. Floor plans are open, walls are thin, and more and more sound-bouncing glass and dry wall are used.

Not that today's houses are exactly boiler factories. In some respects, they have acoustical advantages. Today's one-story houses have no stairwells for noise to travel up and down, no second-story floors to transmit the shock of footsteps to rooms below. Further, it must be remembered that all the



... and easier to sell

world is noisier today, and that people are marvelously able to adapt themselves to a tremendous range of sound (provided they think it necessary).

People do want quiet—relative quiet—and *are willing to pay for it*. This may come as a surprise to builders who think sound-conditioning expensive. But even the more expensive type of acoustic tile often pays for itself in medium-priced homes. The low-priced home can be designed for more quiet living—and no doubt will be, for sound-conditioning is inevitable in housing. More and more study is being devoted to the subject, more and more new or improved products are coming on the market.

The advantages of a quiet house are great for the builder as well as for the home owner. A quiet house is easier to sell because:

- ▶ Sound-conditioning makes a small house feel big, any house feel more solid.
- ▶ Acoustical tile has a high thermal property, cutting heating bills.
- ▶ A house has a decided “plus” even if only one bathroom is *insulated* so as not to transmit noise to adjoining rooms, or if kitchen or playroom is made relatively quiet by use of materials that *absorb* sound.

A glossary for sound-conditioning

Acoustics is the science of sound.

Noise is unwanted sound. A sound may be pleasant to one person and unpleasant to another, or unpleasant at one time and pleasant at another to the same person.

Loudness (a sensation) depends on intensity and frequency of sound, as well as the characteristics of the individual ear.

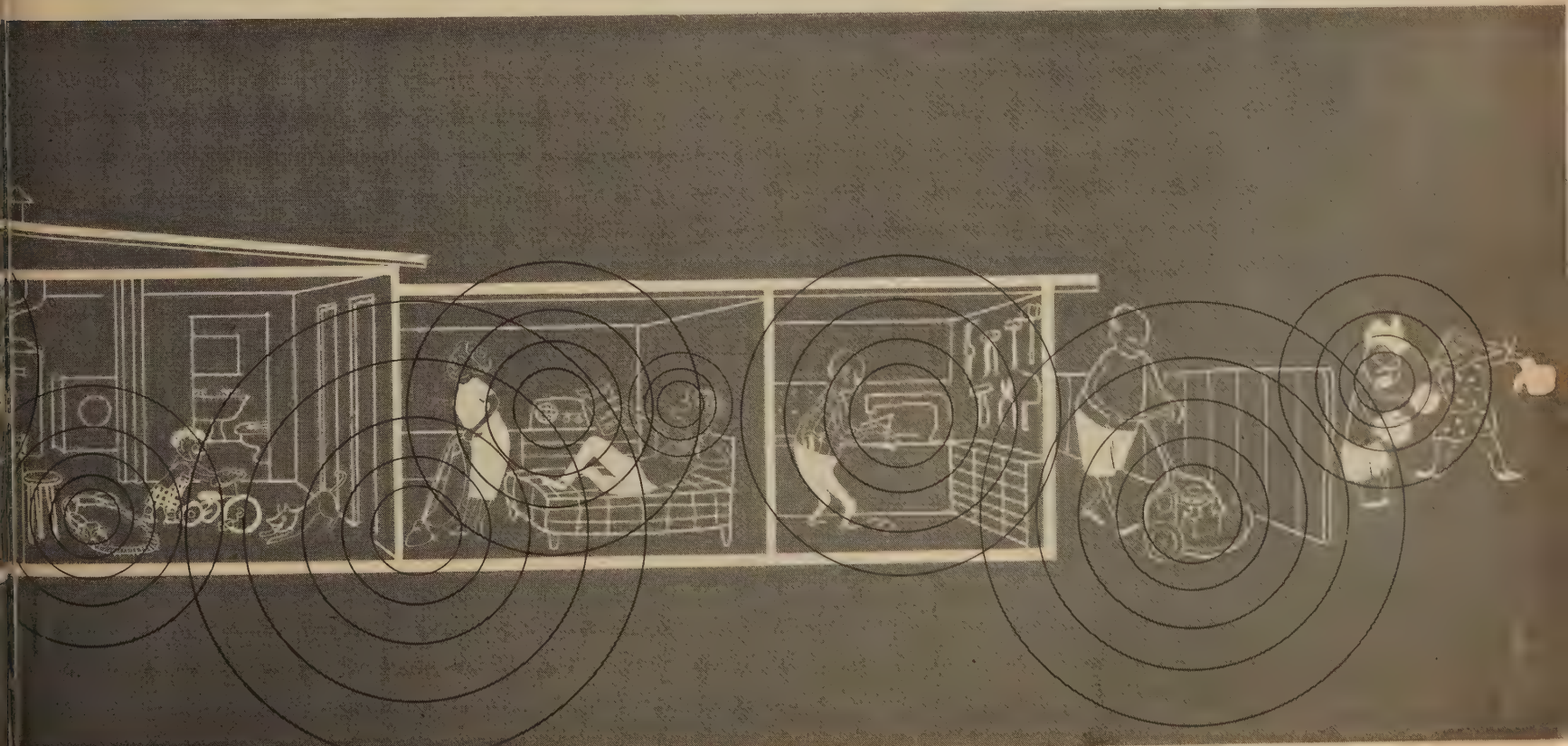
Decibels are a measure of sound intensity. A 20-db sound (like quiet conversation) is twice as intense as a 10-db sound (like a whisper). A 30-db sound is twice as intense as a 20-db sound, and so on. A quiet home ranges from about 35 to 45 db. A 120-db sound is physically painful, and is one trillion times more intense than a 1-db sound that is barely audible.

Sound insulation refers to reduction of sound transmission between rooms—through walls, doors, windows, floors and ceilings.

Sound absorption refers to reduction of “bounce” of sound off various walls and other surfaces, within one room or area. (A good sound absorber usually is a poor sound insulator.)

Frequency of sound relates to vibrations (cps) or sound waves. Doubling the frequency vibration raises the pitch of sound one octave (musical scale). Usually, higher pitches are more objectionable. Audible sound ranges from about 20 to 20,000 cps.

Sound absorption coefficients are a standard industry rating of absorbent materials on noise reduction. They are reported for six frequencies, each an octave apart, from 125 to 4,000 cps. Most acoustical tiles have ratings suitable for houses.



Sound-conditioning

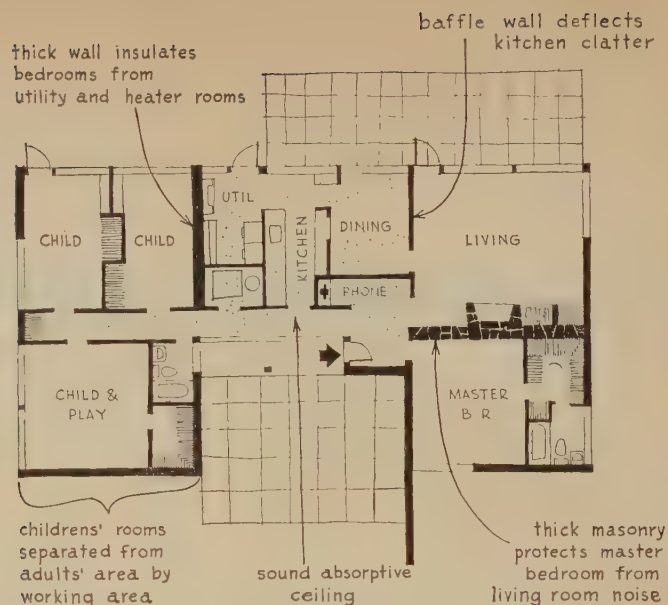
starts on the drawing board

Unwanted sounds can be isolated or masked or—best of all, of course—done away with entirely by proper planning and proper construction methods.

Bedrooms and living rooms need most protection from noise. The chief problem is to *insulate* them against outside noises. It is less important to *absorb* sounds originating within these rooms (the contrary is generally true of kitchens and playrooms). On noisy streets, particularly, bedrooms and living rooms should face the rear of the lot.

In floor planning, bedrooms and living room should not be located next to the noise-making areas, or if they are, they should be protected by heavy walls or clothes closets. Bathrooms might well be placed back of a living-room fireplace or be flanked by clothes closets of bedrooms. Ceilings with different height levels act as baffles. Cathedral ceilings help to dissipate sound.

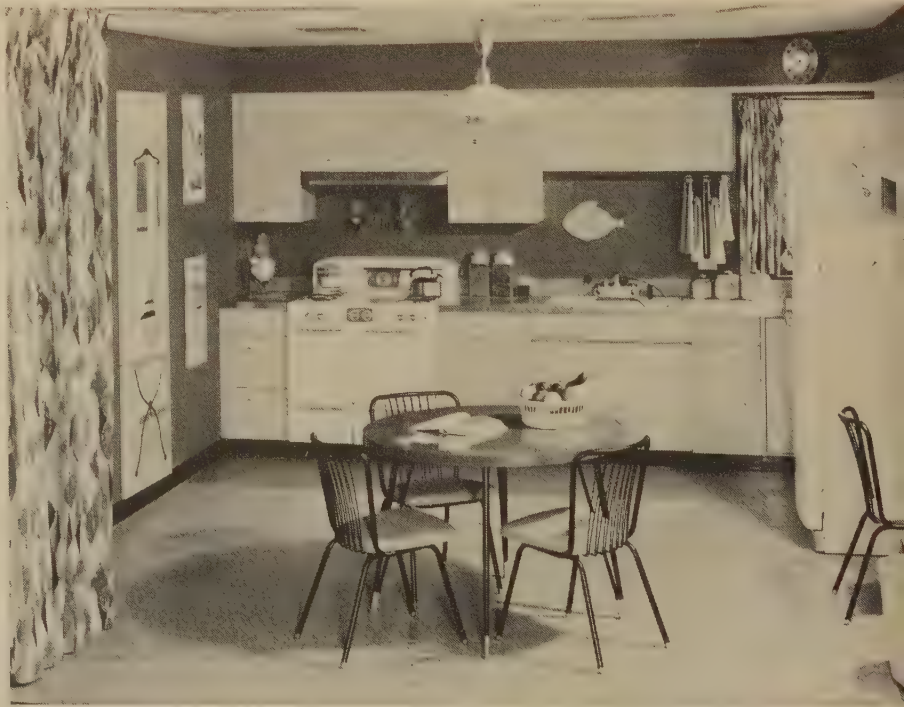
Wherever possible, major appliances should be mounted on resilient bases to prevent vibration. Soil lines from bathrooms should be packed for sound insulation. Weatherstripping should be used on heavy flush doors of bathrooms and some other rooms, for the best attempts at sound-insulation are often defeated by tiny cracks under doors or elsewhere.



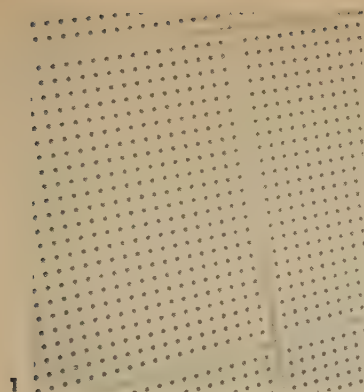
Floor plan can provide for telephone alcove lined with acoustical tile, hallway with walls and ceiling lined with acoustical tile and perhaps baffles to prevent living-room sounds from reaching bedrooms. Noisy areas are separated both by distance and sound barriers from the quieter areas of house.



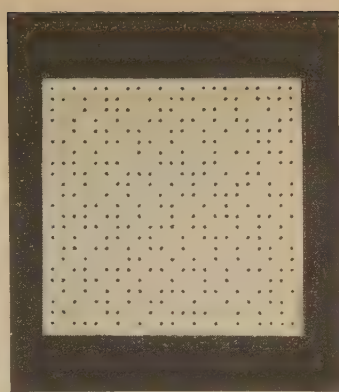
Pan-shaped ceiling plates made of precast concrete which form the roof of Martin Bartling house in Knoxville break up sound waves effectively. Cathedral ceiling also contributes to quiet of house (see p. 114).



Sound-conditioned kitchen designed and built by "Woman's Home Companion" as traveling exhibit has acoustical tile on walls, above cabinets at center and around shallow cabinets at left. Mineral tile is also on ceiling. Steel cabinets have built-in sound deadeners. Curtains and vinyl counters muffle sound.



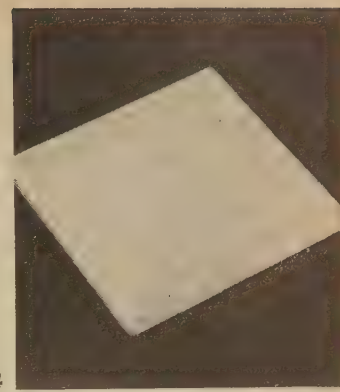
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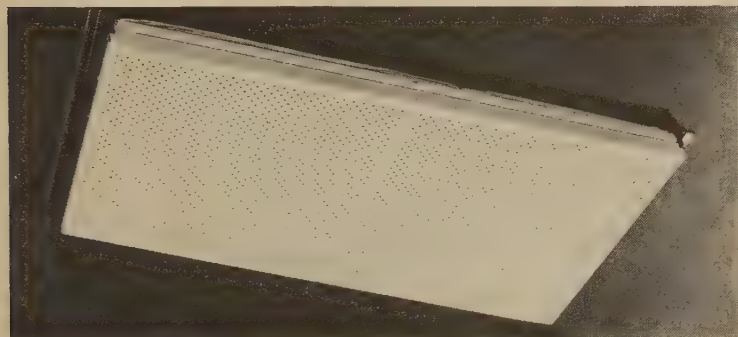
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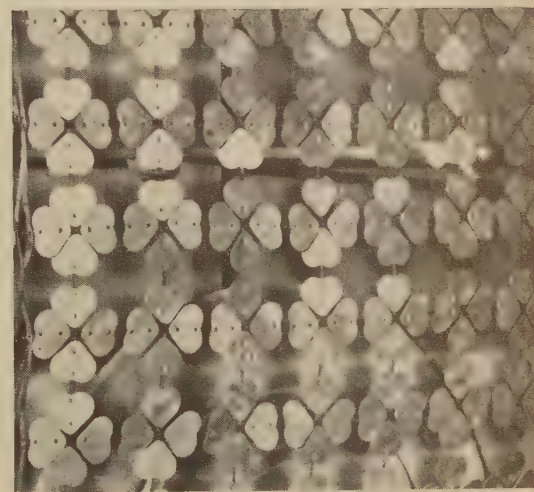
Monolithic acoustical tiles with or without perforations extending into an absorptive material are by far the most widely used sound absorbers. Some are cellulose fiber with regular (fig. 1) or irregular (fig. 2) perforations. More expensive are mineral tiles, one type of which is the fiber pad behind perforated metal pans (fig. 3); another type is fissured (fig. 5). Glass-fiber-backed tile with a facing was designed by Walter Dorwin Teague (fig. 4). The plastic film facing vibrates and transmits sound to glass fiber.

Acoustical tile is often your best bet

Most used of all noise absorbents is acoustical tile. Other good absorbents are acoustical plaster, vermiculite-filled concrete block, cinder block, etc. Tile is perhaps easiest to understand. Regardless of what else may have been done acoustically, good or bad, tile applied to ceilings and walls in any room does give advantages at once apparent to anyone with normal hearing. A noisy room is made more livable; a quiet room is more hushed.



Fissured acoustical tile on ceiling in this kitchen and recreation area of Seattle house designed by George Wellington Stoddard & Associates and built by Nels Hedin is a fiber tile, thus low in cost.



Heart-shaped aluminum stampings are strung together under ceiling to break up sound waves and scatter them in all directions.

Photos: E. Silva, courtesy of Living for Young Homemakers; John Bendixsen, courtesy Woman's Home Companion; Armstrong Cork Co.; Simpson Logging Co.; Owens-Corning Fiberglas Corp., and Reynolds Metals Co.

Sound-conditioning appears on the verge of a break-through. Reports are beginning to be heard of a number of builders offering quieter houses.

▶ In Milwaukee, an All-Quiet Homes development is planned this spring as a result of a two-house test there last fall.

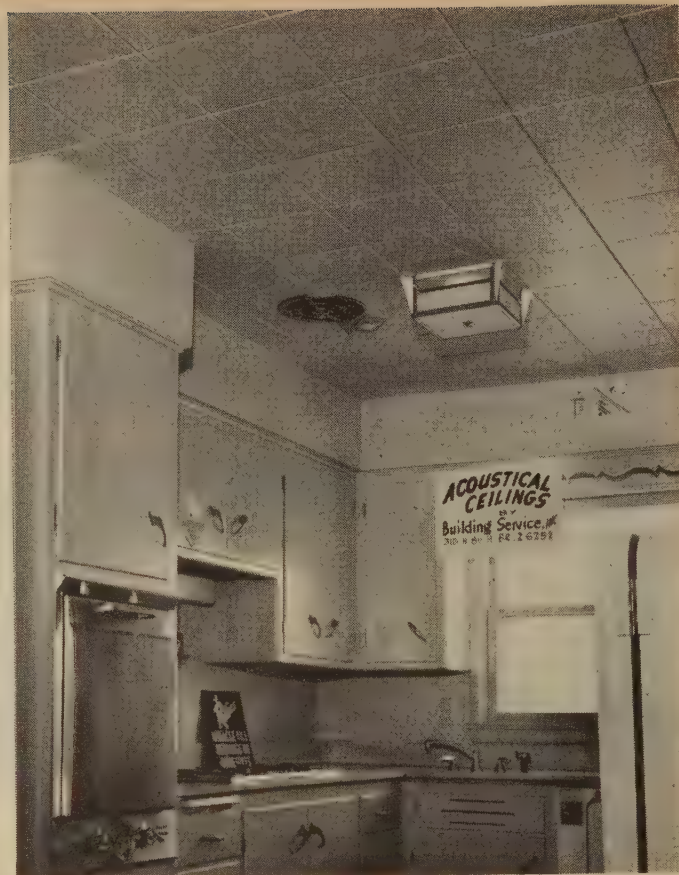
▶ In Miami Beach, Fla., Architect Norman Giller hopes to use acoustical tile in a new project of 5,500 houses.

▶ In many other US cities, Modern Homes dealers (41% to date) plan to install acoustical tile ceilings in prefab houses.

▶ Kitchens and playrooms of Place & Co. prefabs will have glass-fiber acoustical tiles starting this spring.

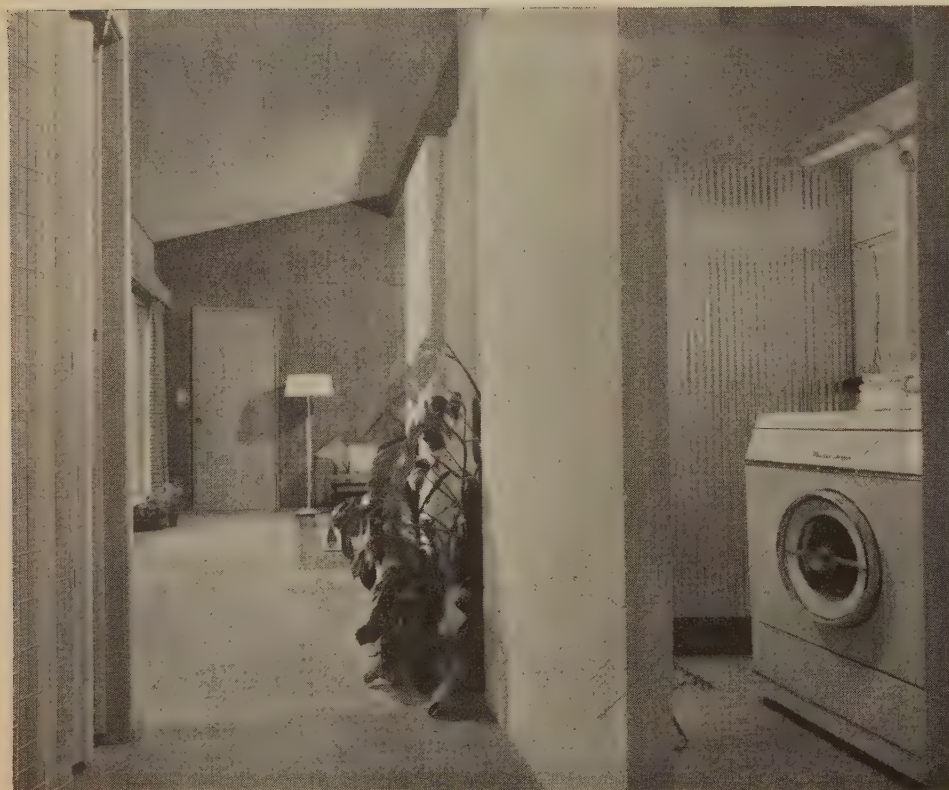
"Builders should not be scared of the cost of acoustical tile," says Builder Jack La Bonte, who used it in two Parade of Homes show models in Milwaukee last September. He used comparatively expensive glass-fiber tile in a \$17,800 house and a \$26,900 model, reports enthusiastic reception made it worth the extra expense in both. The tile cost about 45¢ a sq. ft., against a competitive cost of about 15¢ for plaster and 13¢ for dry wall, he says. However, his tile subcontractor and the manufacturer "are giving us a good price" for a substantial number of All-Quiet houses to be built this spring, and La Bonte believes the tile will be close to the cost of other types of ceiling—even practical for houses priced as low as \$15,000 to \$17,000.

In Florida, Architect Giller believes that acoustical tile can be installed for only 10¢ more per sq. ft. than "regular wood construction" ceilings.

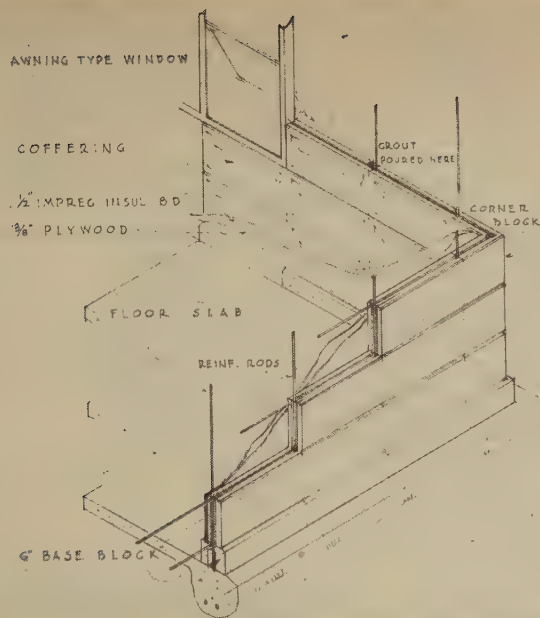


Acoustical tile ceiling throughout Rite Realty's Milwaukee Parade of Homes model house not only drew "comments galore" from show visitors last September but helped win Parade's first prize for design. Note how builder placarded the acoustical feature.

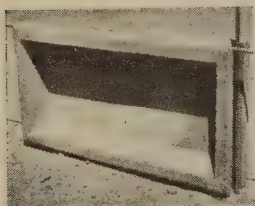
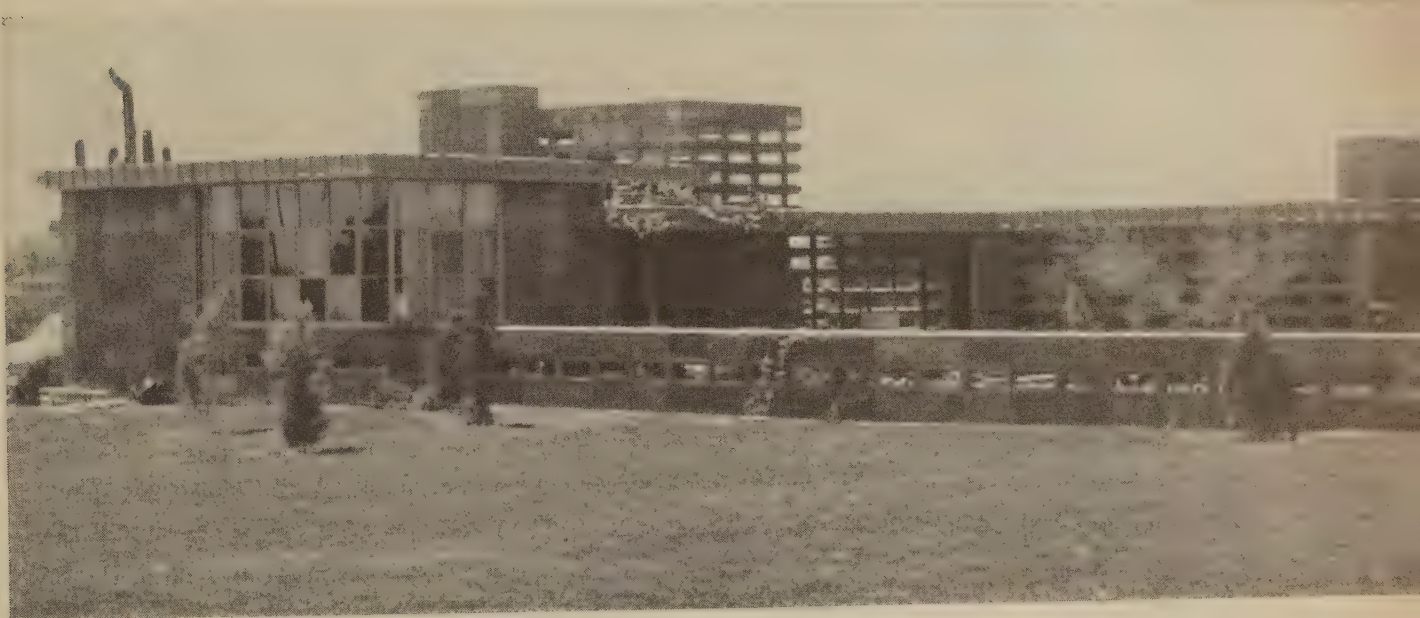
Some builders have already learned the lesson



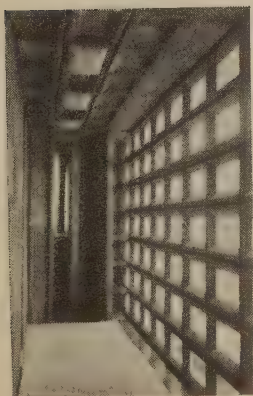
Well-planned sound-conditioning characterized Minneapolis houses built last year by Robert A. Norsen. Besides acoustical tile ceiling, he used heavy cinder blocks to insulate utility-room sounds from adjoining areas, put heavy fireplace between living room and more noisy rooms of house. Floors were cork tile.



"Usonian Automatic" system has single wall of block 1' x 2' x 3 1/2" reinforced with 3/8" rods wired at intersections. Inside face of block is coffered to cut its weight and to provide air space after the plywood lining is installed. Lower ends of the vertical reinforcing rods are cast into the floor slab-footing, offering considerable protection against wind loads and earthquake shock. Block is set in place between them and tied together with a cream-consistency grout that is poured into the open block joint. Next course is simply set in place over the one below until ceiling height is reached. Openings are left for the standard section metal windows and doors, which have bearing mullions on the 2' block joints.

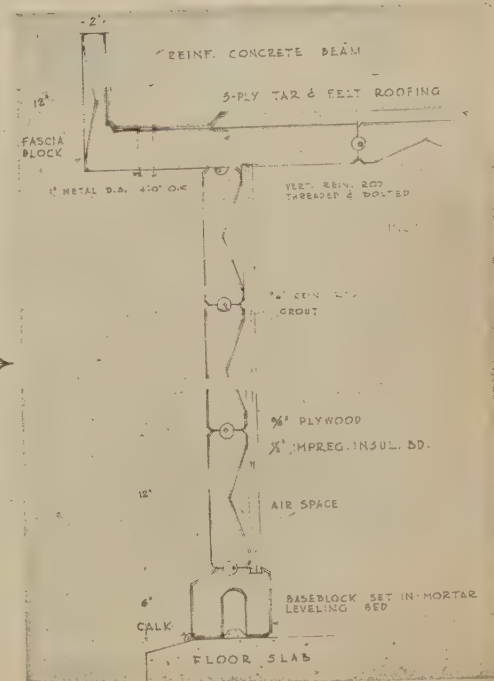


Early block had flat coffer (see left). Molded of moist sand and cement mix, it develops 500-psi compressive strength when properly cured. After some experience, two common laborers set up course around entire perimeter of house (above) in one hour. Since there were no mortar joints, masons' union was not interested.



Simplicity of system is shown in section drawing. Vertical reinforcing rods are threaded at top to receive nut and washer fastening for roof. Of seven block types used, three are shown here in section. Lighting and wiring are in continuous channel suspended below ceiling.

Variation is shown (left) where glazed perforated blocks are used in the wall (note block in ceiling). Perforated block can be left open for screen walls, put in ceiling for skylight. Standard block can have coffering outside for variation in appearance. This is in Adelmann house in Phoenix (also shown above).



Dry-wall footings: "One of the best foundations I know of, suitable to many places, is made of shallow trenches about 16" deep and slightly pitched to a drain, filled with broken stone about the size of your fist. Broken stone does not clog up, and provides the drainage beneath the wall that saves it from being lifted by the frost. This type of footing is not applicable to treacherous subsoils."

The basement: "In spite of everything you may do, a basement is a noisome, gaseous, damp place. From it come damp atmospheres and unhealthful conditions. Because people rarely go there—and certainly not to live there—it is almost always sure to be an ugly place. The family tendency is to throw things into it, leave them there and forget them. Of course, a basement often is a certain convenience, but these conveniences can now be supplied otherwise. So we decided to eliminate it wherever possible and provide for its equivalent up on the ground level with modern equipment."

Orientation: "Ordinarily the house should be set 30-60 to the south, well back on its site so that every room in the house might have sunlight some time in the day. If, however, the house must face north, we always place the clerestory (which serves as a lantern) to the south so that no house need lack sunlight."

Ventilation: "The kitchen being one of the places where smells originate, we made that the ventilating flue of the whole house by carrying it up higher than the living room. All the air from the surrounding house was thus drawn up through the kitchen. You might have liver and onions for dinner and never know it in the living room."

The kitchen: "We like to make kitchens small, and put things on ballbearings. We have more money to spend on spaciousness for the rest of the house. I believe in having a kitchen featured as the work space in the Usonian house and a becoming part of the living room—a welcome feature."

The attic: "Why waste good livable space with an attic any more than with a basement? And never plan waste space in a house with the idea of eventually converting it into rooms. A house that is planned for a lot of problematical space or space unused to be finished some other day is not likely to be a well-planned house."

Lighting: "The best way to light a house is God's way—the natural way, as nearly as possible in the daytime and at night as nearly like the day as may be. As for artificial lighting, it too should be an integral part of the house. In 1893, I began to get rid of the bare light bulb and have ever since been concealing it on interior decks or placing it in recesses in such a way that it comes from the building itself."

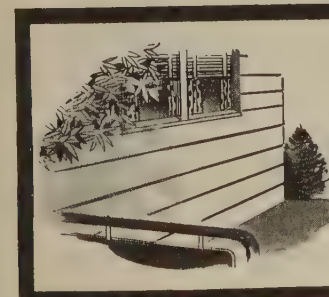
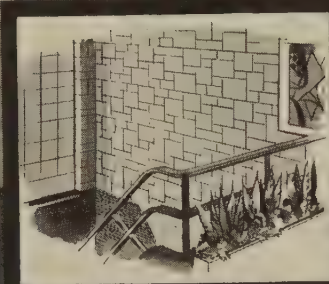
Finish: "We use nothing applied which tends to eliminate the true character of what is beneath, or which may become a substitute for whatever that may be. Wood is wood, concrete is concrete, stone is stone."

David Davison; courtesy Horizon Press



"I gave broad protecting roof-shelter to the whole. Overhangs had double value: shelter and preservation for the walls of the house, as well as this diffusion of reflected light . . . through the 'light screens' that took the place of the walls and were now often the windows in long series."

NEW VALUES THAT unfetter the imagination



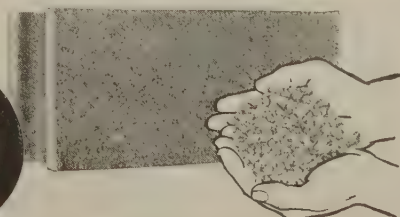
Waylite Masonry makes the most liveable home ...
comfortable, thermally insulative walls ... quiet ... firesafe ...
wide range of decorative possibilities.

Shown here are a few of the unit patterns frequently used in Waylite homes. Creative talents can, and *will*, originate many others of equal or surpassing merit. In addition to a multitude of unit patterns there is also the infinite variation of joint treatments ... and all the colors of the spectrum! It is a fruitful area in which imaginative concepts will produce new surfaces to delight the eye.

The new values that Waylite Masonry brings to structures makes these newer treatments important. The cost is low. Waylite walls have high thermal insulative quality giving equitable room climate ... the exposed surface of the Waylite unit makes a quiet home with no need for acoustical treatment.

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No. 101 Edgeguard

— for door and window casings. Easily installed before or after wallboard is in. No spackle required around this trim. Galvanized steel for $\frac{3}{8}$ "- $\frac{1}{2}$ "- $\frac{5}{8}$ " board. 7'-12' lengths. U. S. Pat. No. 2,663,390. Canadian Pat. No. 506,022.

Patented design — grips board with firm spring action. No spackle required.

$\frac{3}{8}$ "- $\frac{1}{2}$ " Factory
Mitered at no extra
cost, $\frac{3}{8}$ " square cut.

No. 106 — No. 108 Edgeguard

Insure neat, protective finished edge. Is butted at corner, nailed through board into stud. Knurled for good spackle adhesion. Paint adheres. Means beautifully finished job. For $\frac{3}{8}$ "- $\frac{1}{2}$ "- $\frac{5}{8}$ " board. 7'-12' lengths.

Packaged — 86 — 7' pieces 602'.
50 — 12' pieces 600'.

No. 108

No. 220 Corner Guard

Note rounded corner design to give extra protection against hard bumps. Means correctly finished corners — permanently. Knurled for good spackle adhesion. Easily cut and fitted. Nails easily, quickly through board to stud. A better job — no extra cost.

Size 1" x 1" — 8' — 6'8" lengths.
Packed 1000' to crate.

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For
SAMPLES

for complete information write

DRYWALL TRIM, INC.

2408 N. Farwell Ave. • Milwaukee 11, Wisconsin

LETTERS continued from page 178

Sirs:

Your September issue should be of great help to the progressive builder. I am afraid, however, that for every builder who could understand the issue there must be at least a thousand who would not have the slightest conception of what you are talking about.

The only builder I feel that is small enough not to hire an architect is one that has gone out of business.

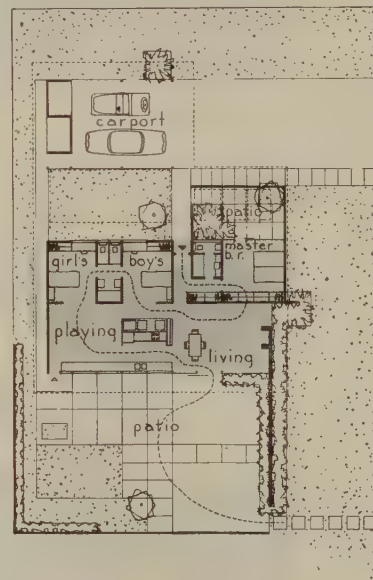
I have noticed in my own practice that the more successful builders are seeking competent architectural advice and even taking it after they have paid for it. I feel your magazine is directly responsible.

DONALD H. HONN, AIA
Tulsa

PLAN REPLANNED

Sirs:

The 1954 Tacoma Home Show house (H&H, Aug. '54) was so good that I thought it worthwhile to rework the plan taking into consideration your suggestions on "good design for production" in the September issue.

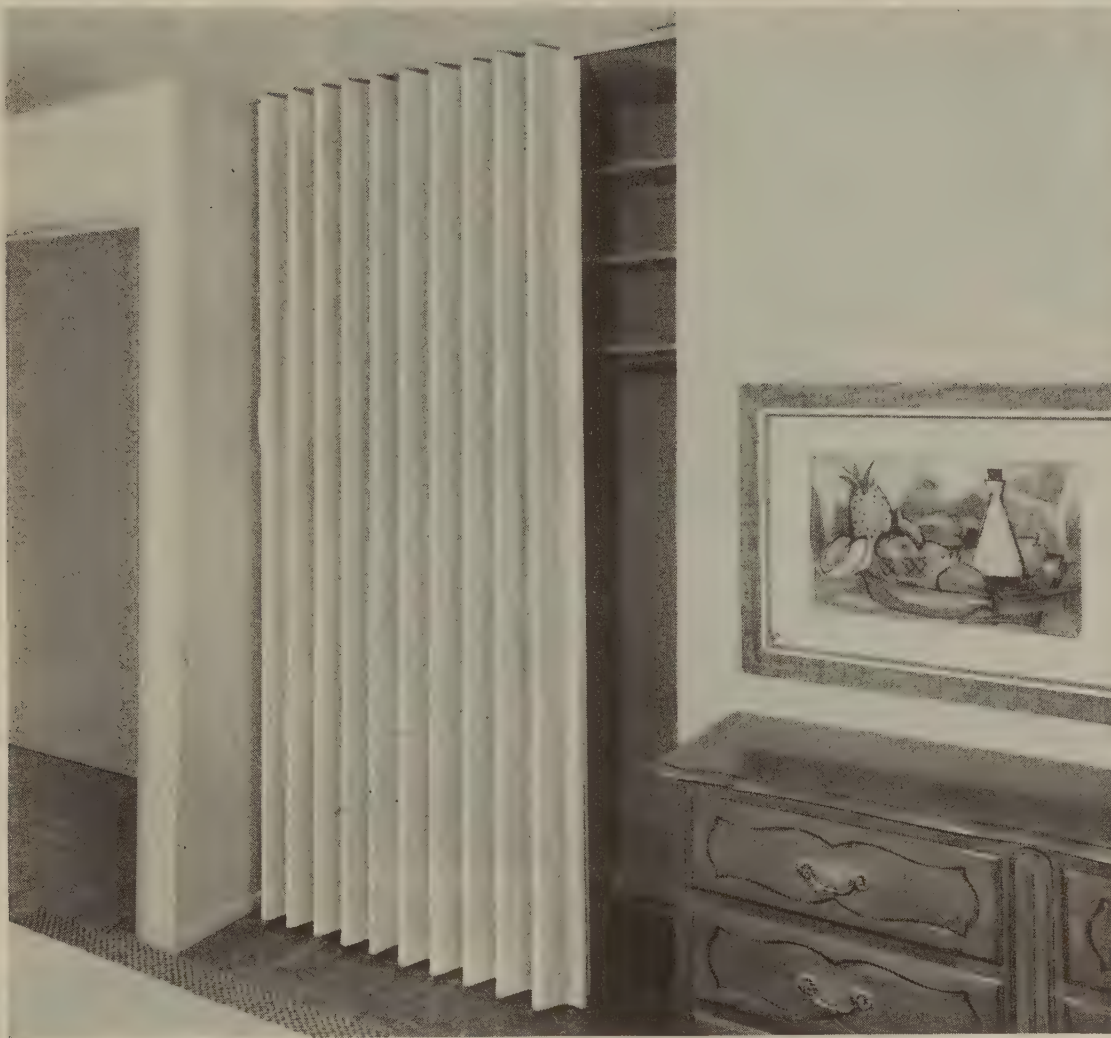


Home Show house restudied. Dotted lines indicate traffic lanes.

You will note that: 1) the foyer leads directly to all major areas, 2) the living room requires no cross traffic, 3) location of toilet is handy for guest use, 4) children have their private bath and individual toilets, 5) occasional overnight guests could use first child's bedroom and child could bed down in playroom, 6) children's bedrooms sleep two comfortably, 7) parents' bedroom located to insure privacy, 8) parents' private garden patio, 9) generous furniture space and wardrobes in parents' room, 10) natural light and ventilation in bathrooms, 11) controlled fenestration throughout offering complete privacy, 12) range, refrigerator and sink located close enough for efficient use, 13) washer and drier concealed in passage, 14) living-room seating area surveys the TV set, the fireplace and the

continued on p. 182

"Features like this..."



help us sell houses like this!"



Says **VIRGIL A. PLACE**, builder of the popular **PLACE HOME**

"Ever watch a woman auditing closet space in a new house? You can almost see a big electric sign light up in her mind—'Convenient' or 'Inconvenient.'"

"That's why we use MODERNFOLD doors. Take this closet, for example. Every inch of space, from floor to ceiling, is completely accessible. Notice that it opens at both ends, too. And no floor space is taken up with door swing. It's features like this that help to sell houses."

Yes, by eliminating door swing, MODERNFOLD adds many square feet of usable space to a house...permits a homemaker to arrange furniture and pictures as she desires.

MODERNFOLD doors are available in two lines: Custom and Spacemaster. The Custom comes in a wide variety of colors to match any decorating scheme, while the versatile Spacemaster can be painted or slip-covered.

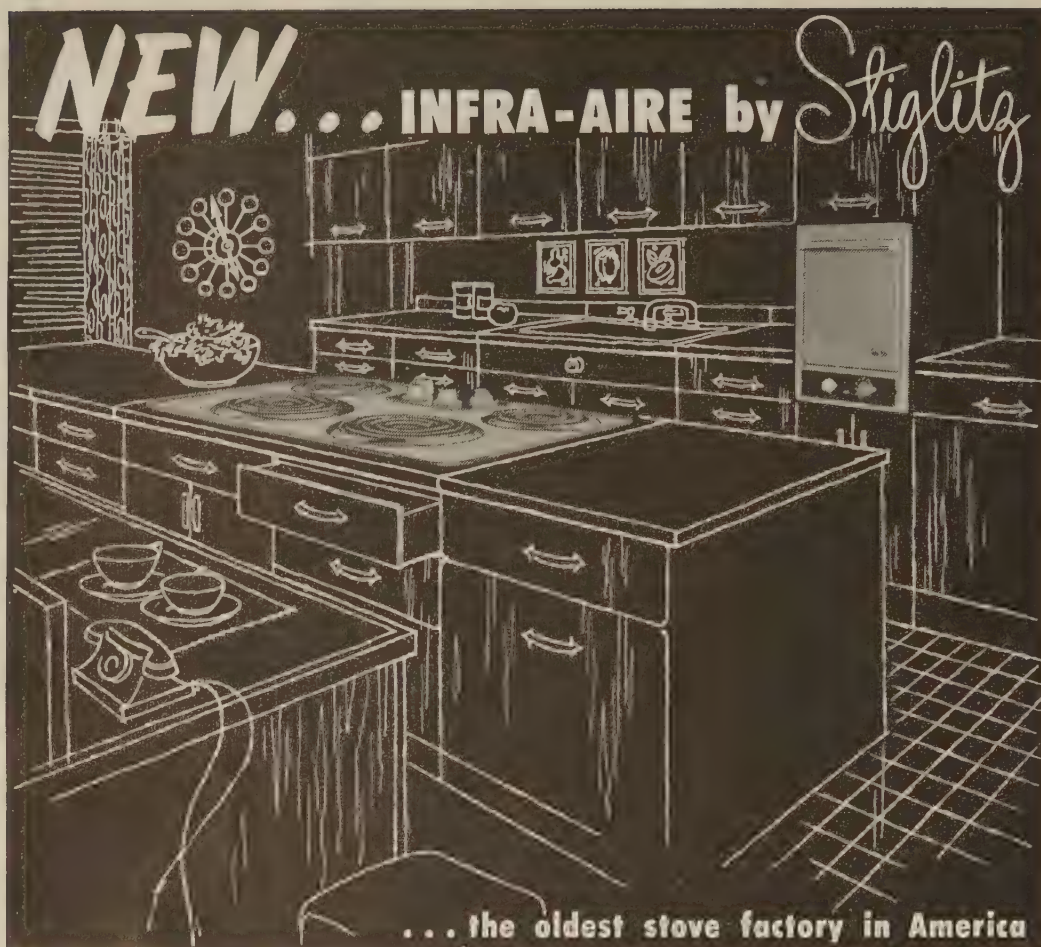
Sturdily-built MODERNFOLD doors are priced economically and can be installed quickly and easily, saving time

and labor costs. And above all, they give your customers more space and greater convenience—a plus value that helps to sell houses.

The Custom line is available through installing distributors. Look under "Doors" in city classified directories. The Spacemaster line is available at your building supply dealer. Or write New Castle Products, Inc., Dept. A20, New Castle, Indiana. In Canada: New Castle Products, Ltd., Montreal 6.



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Please send free literature, specifications and prices on Infra-Aire Electric Ranges.

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City and Zone _____ State _____

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LETTERS *continued from p. 180*

patio, and 15) simple framing with beams resting on the center partition.

W. A. WOELLANDER, *architect*
Jefferson, Ore.

BRICK BATS

Sirs:

The October issue was the final insult to my esthetic sensibility. Mediocrity as exemplified therein is the answer to no person's housing problem.

HOUSE & HOME has fallen from the ranks of discriminating publications to become a speculator's digest.

Cancel my subscription.

RICHARD R. SAWICKI
Greenwich, Conn.

... AND BOUQUETS

Sirs:

After reading your account, I want to go on record that the new Housing act (H&H, Oct. '54) sounds like one of the best laws that has ever been considered in the building business.

Consider me a steady subscriber to your magazine.

ARTHUR M. WEEDEN
Wynne, Ark.

REFINING INFLUENCES

Sirs:

I would be most grateful if you would give me the addresses of the Blue Ribbon Construction Co., Architects Smith & Williams and George Matsumoto (H&H, Sept. '54).

I would like to consult all of them to get some help in refining a somewhat similar house that I have designed for a plot of 350 lots I own.

... HOUSE & HOME is the most terrific thing that ever happened in the way of giving builders, architects, etc., ideas as to how better to serve prospective home owners.

J. FRANK DARLING
Wilmington, Del.

INDISPENSABLE LUMBERMAN

Sirs:

What Mr. Sweet is doing (H&H, Aug. '54) is highly significant because under present conditions of mechanization, merchandizing, and competition, he has made his lumber operation so essential to both the large and small builders that they cannot afford to dispense with his services.

Of course, every retail dealer is not located in a community and may not have the resources to carry on the extensive type of program adopted by Messrs. Thompson and Sweet. However, it seems clear that the panelization of houses is one phase of an evolving retail lumber business which will be with us for some time in the foreseeable future.

PAUL S. COLLIER, *executive vice-president*
Northeastern Retail Lumbermen's Assn.
Rochester, N. Y.

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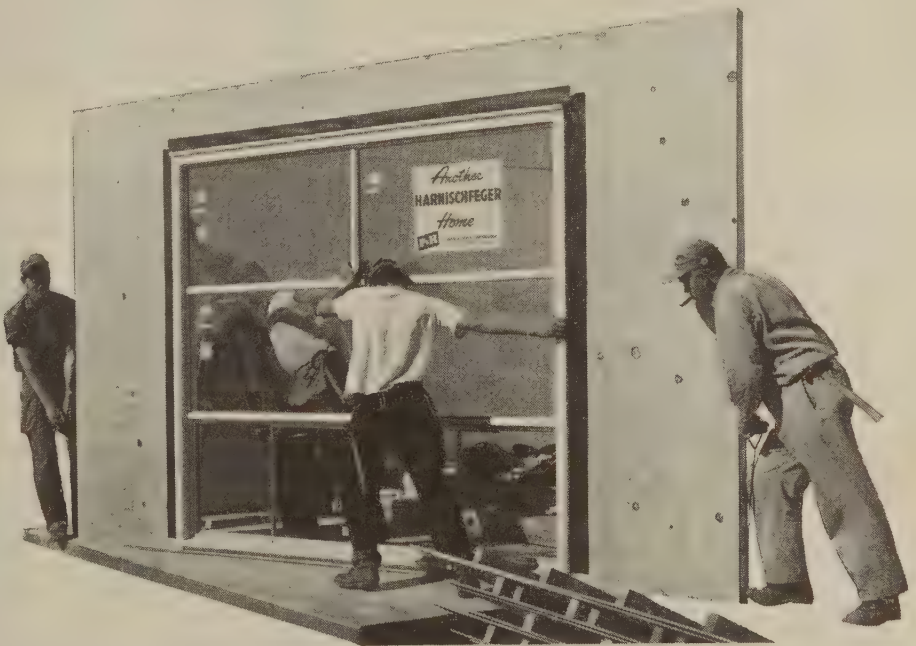
Street-building, sewer-laying, practically any "mud pushing" job is less costly working with P & H. Harnischfeger has been in construction for 70 years, so you have plenty of know-how to call on—and cost-cutting equipment like the P & H Miti-Mite and Soil Stabilizer. . . . And P & H has its Financing Service Department and subsidiary Builders Acceptance Company to help you with loans, mortgages and processing . . . Enjoy prefab savings *all around*. Build P & H Homes.

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More house for the money—that's the reason most P & H builders sell more homes more profitably. P & H Homes—in the \$6,000 to \$20,000 range—offer careful construction and brand-name quality materials usually found only in higher priced homes. More space and better design, too. There's more profit in P & H Homes. A good crew can have a house up and enclosed in 6 hours; no waste of time or materials. Less ordering and inventory, less overhead. Finally, each step of work is complete on schedule, subs or buyers never have to wait. And you know all your costs with P & H Homes.

SEE P & H AT THE NAHB SHOW

Visit the P & H model home and booth 13 at the NAHB Show, Hilton Hotel, Chicago. Ask about the Builders Open House. Or write or phone Harnischfeger Corporation for P & H Profit Plan today.



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- 2 Compact!** Fits into small space...in basement, garage, breezeway, out-doors.
- 3 Easy to install!** Comes fully assembled ready for immediate water, electric and duct connections.
- 4 Low maintenance!** All metal surfaces are heavily galvanized and given several coats of good paint. Construction is rigid. Nozzles are clog-proof. No moist air reaches the air propulsion mechanism.
- 5 Efficient!** Binks' 25 years experience in the development and manufacture of successful commercial towers assures correct design and high efficiency for this residence tower.
- 6 Attractively priced!** These towers are mass produced for economy. There is a liberal profit for distributors.

Call your nearby Binks representative who knows cooling towers from A to Z.
See your classified phone directory...or write direct for full information.

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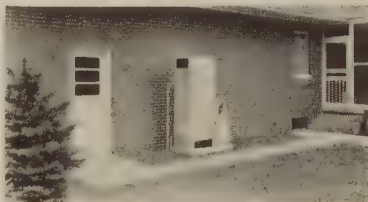
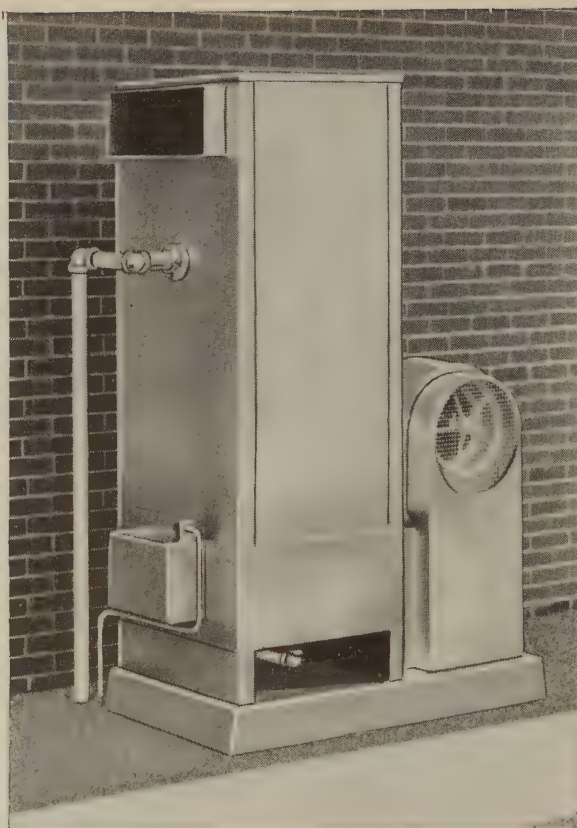


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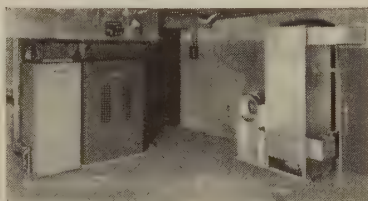
Binks Manufacturing Company
3128-32 Carroll Avenue, Chicago 12, Ill.

Gentlemen: Please rush FREE Cooling Tower Bulletin 47-D and other facts including prices.

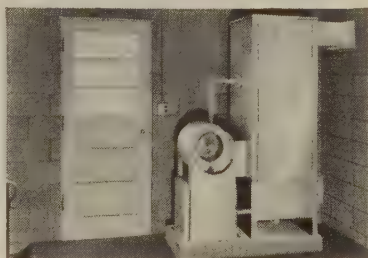
NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____



They're built to stand exposure when placed outside the house.



Because of their noiseless operation, Binks cooling towers can be placed in utility or recreation rooms.



Available space in garage, carport or breezeway can be used.

NEW PRODUCTS *continued from p. 152*



Wallace Arters,
Media, Pa.
builder:

"Sliding glass window walls are giving as the means to offer indoor-outdoor living in many of our models. In our one-floor houses, they open living and dining rooms onto a patio. On hillside locations, we can now create daylight basements out of what would have been dark and unattractive space. Also, glass window walls are now readily available throughout the country, quite a change from two years ago, when we had one flown to Media from California to go into the Trade Secrets house."



Paul M. Waters,
Knoxville, Tenn.
builder:

"When we questioned the 50,000 visitors to our 1954 Parade of Homes on the features they liked best, over 85% mentioned the built-in ranges and ovens, featured in 12 of the 18 Parade homes. The tremendous promotion given these units by magazines and kitchen planning experts has made them completely acceptable to US women. Their response makes it plain that built-in appliances will be one of the most important sales points in the 1955 builder's house."

continued on p. 198

makes as much sense as GAS

This New Freedom Gas Kitchen was especially designed for efficiency. Separate range units are made to "CP" standards by the **Caloric Stove Corp.** The noiseless **Servel** Gas refrigerator (with a 10-year warranty and no moving parts to wear) has the now famous automatic ice-maker. The **Republic Steel** cabinets house pots, pans and utensils in small, separate "work centers."

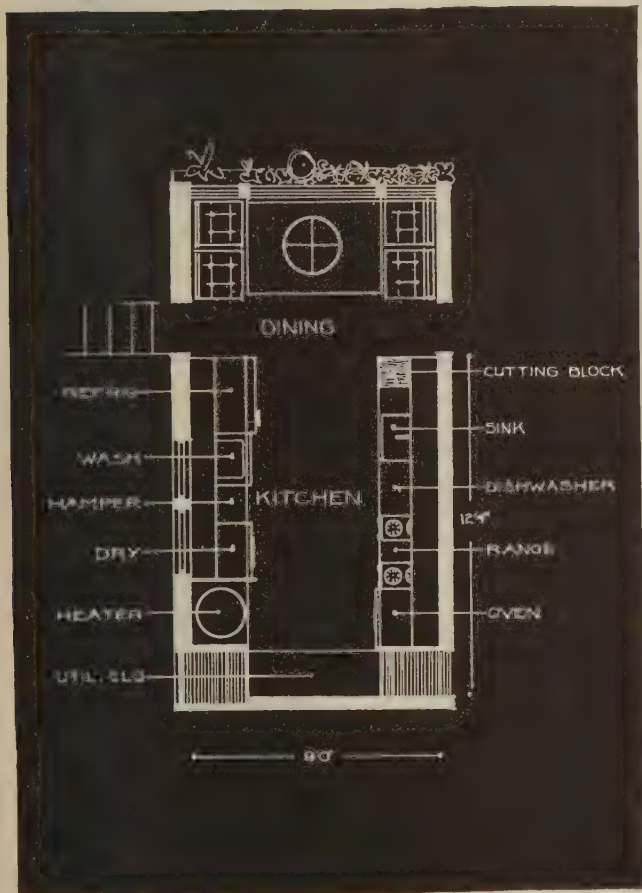
Don't miss the New Freedom Gas Kitchens in the Normandie Lounge and the lower exhibit level of the Conrad Hilton and the mezzanine of the Sherman at the NAHB Convention, Chicago, Jan. 16-20.



Rheem Coppermatic
automatic Gas water-heater.



Hamilton automatic Gas
clothes dryer with
matching automatic washer.



Your local Gas company will be happy to work with you on any problem.

A fast-recovery water-heater is vital for today's homes . . . thanks to larger families, more bathrooms, automatic dishwashers and automatic clothes washers. (The latter uses 20 gal. of hot water for each washing cycle.) Gas water-heaters are 3 times faster than any other kind run by an all-automatic fuel. Another appliance that is getting more and more vital is the clothes dryer. Many women even rate it ahead of the washer because it saves the hardest part of wash-day — the hauling and hanging. A number of manufacturers offer dryers in a choice of 2 fuels. However, professional laundrettes prefer Gas for its speed and economy 30-to-1. If you can't supply dryers, rough in the outlet and the vent and include feed lines so the customer can choose Gas. She'll thank you for it.

AMERICAN GAS ASSOCIATION

Only Gas does so much—costs so little

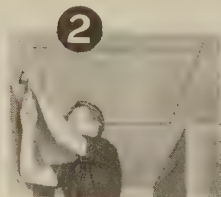
. . . HOUSE-HEATING . . . AIR-CONDITIONING . . . CLOTHES-DRYING . . . INCINERATION.



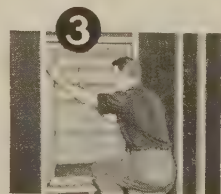
Adds appeal of Built-in Summer Comfort at Lowest Cost!



Fan and shutter arrive set up. Simply place fan over framed ceiling opening. Rubber cushion makes it self-sealing!



Complete automatic shutter unit screws to ceiling opening frame; flange forms trim. No finishing needed.



Ready-made attic louvers can be installed quickly by one man. Sizes for each of various-sized fans.

Comfort-minded house hunters buy this R & M Fan idea!

Today, most people consider coolness in summer just as important as warmth in winter. And, in everyone's mind, *complete* home cooling is the ultimate. It's easy to understand, then, why prospective home buyers will be impressed with an R & M Attic Fan! It *cools every room in the house!* Yet you can install this unit—complete with automatic ceiling shutter—for as little as \$137.60*!

Build this sales talk into your homes! Promise cool sleeping, cool living. Get selling benefits *far* beyond its low cost! Requires only 18" of attic clearance; fits narrow hallways. 5000 to 16000 CFM. Available with or without automatic ceiling shutter. Fan guaranteed 5 years; motor and shutter, 1 year. Return the coupon for a reliable guide to better comfort cooling.

*Prices subject to change without notice

ROBBINS & MYERS



"Package"
attic fans

free
booklet!

ROBBINS & MYERS, INC., Fan Division HH-15
387 S. Front St., Memphis 2, Tenn.

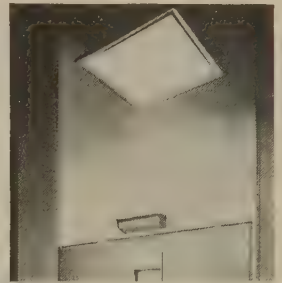
Please send me your booklet, "R & M Comfort Cooling and Ventilating A.I.A. File No. 30-D-I."

Name _____

Address _____

City _____ Zone _____ State _____

NEW PRODUCTS



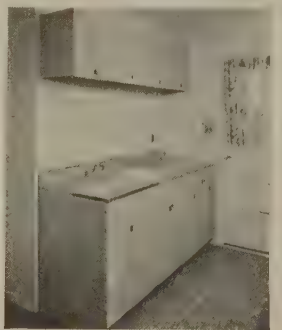
George Hay
Media, Pa.
architect:

"FHA's acceptance of the inside bath gives me greater freedom to floor-plan a house, and the new plastic skylights, with built-in fan give me the ventilation and lighting that the nonperimeter location demands."



Stanley W. Cowherd
Kansas City
builder:

"We are able to give our customers the luxury of wood-paneled walls by using pre-finished hardwood plywood panels. The big 4' x 8' sheets go up fast, don't slow down our construction time, look like random width boards, and need no finishing."



Anthony Zummo
Bay Shore, N. Y.
builder:

"We are now buying our metal kitchen cabinets with a wood grain plastic laminate surface. Our customers always liked wood and this eliminates the headache that goes with a warped or cracked door."

This month's New Products p. 202



Patterns for natural
Beauty unlimited
with modern **VIBRAPAC Block**

in every way.. **VIBRAPAC** Concrete Block *make good!*

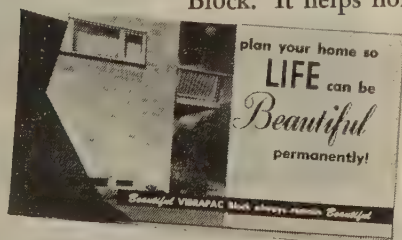
In appearance: Now, with Modern VIBRAPAC Block, you will find "the sky is the limit" for creative design and construction. Varieties of ashler patterns, interesting textures and distinctive color tones offer opportunities for *beauty* at its *permanent best* in homes and all types of buildings. Charm is added, too, by using VIBRAPAC Block for fireplaces, garden walls, planters and other practical uses.

In *durability* and *firesafety* VIBRAPAC Block *make good*, too. They help homes hold peak value indefinitely. Dependable *self-insulation* is engineered into them. They are *immune to attacks* from weather, violent storms, rodents or destructive insects or fungi. Reasonable *first-cost* and *minimum maintenance expense* add to their "make-good" qualities. There's a sensible trend toward VIBRAPAC concrete masonry units ... worthy of your endorsement!

This Booklet Helps You Make Profitable Decisions —

Its 24 pages show many attractive exterior and interior adaptations of VIBRAPAC Block. It helps homemakers "make up their minds" that it pays to make the most of modern concrete masonry.

Ask your nearby Concrete Block Plant for a free copy of this book, or write to: BESSER Company, Box 175, Alpena, Mich.



VIBRAPAC BLOCK

— Modern 3 core and 2 core units.

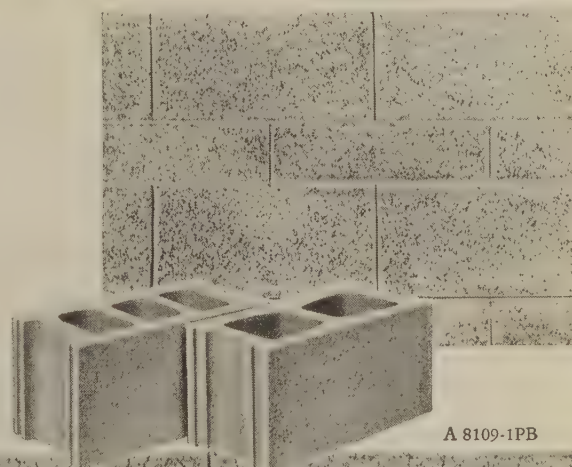


**BES-STONE
SPLIT BLOCK**

has that quarried stone character



for floors and roofs
VIBRAPAC SOFFIT BLOCK



A 8109-1PB

BESSER COMPANY

ALPENA, MICHIGAN, U.S.A.

Manufacturers of **VIBRAPAC
CONCRETE BLOCK MACHINES**

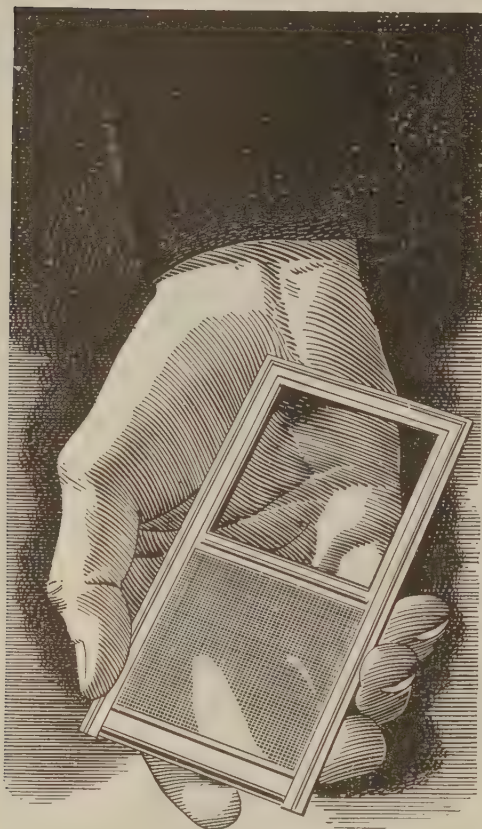
for Block-Making Plants All Over the World

PROMOTERS OF HIGH QUALITY CONCRETE MASONRY FOR MORE THAN A HALF CENTURY

ALUMINUM

COMBINATION STORM SCREEN WINDOWS

NOW COST LESS THAN WOOD!



Alumatic "Guardian" Aluminum Combination Windows are now available to builders at less cost* than wood storms and screens complete!

Guardians cost less than wood, because they are produced by our new Contract Division specifically for the builder. They are sold direct in volume through special distributors to contractors and builders all over the U.S. They are not "stripped down" economy units, but precision-made of "63S" extruded aircraft aluminum. Research, planning, and production make this low builder cost possible.

Guardians are produced by the Alumatic Corporation of America, with plants in Milwaukee, Paterson, and distribution centers all over the U.S., and in Canada. Alumatic is a nationally-respected leader in the field of quality aluminum building products — windows, combination doors, screen doors and aluminum awnings.

What Do "GUARDIANS" Mean to You?

For one thing, they help you make more money on every home you sell! For another, they make your home *easier* to sell—people like the convenience, economy, beauty, and protection of enduring aluminum.

Guardians need no special fitting, and no painting. Can't split, swell, or warp — are perfect for installation while plastering is being done. They keep out weather until the house is dry and your prime windows can be safely installed with out re-fitting.

Thousands of homes will be sold with aluminum combinations this year — make sure they're yours and not your competitors.

What Do "GUARDIANS" Mean to Customers?

It means they'll be more satisfied. With Guardians, they'll never have to change storms and screens! Never have to bother with changing and storing, never need to climb dangerous ladders.

Your customers will never have to refit and repaint storms and screens, and they'll have practically no upkeep for many years to come. They'll have more leisure time for family and fun.

With Guardians, the homes they buy from you are more attractive, and more livable.

"GUARDIAN" ALUMINUM COMBINATION WINDOWS COST YOU LESS
... HELP YOU SELL MORE!

Send coupon today for prices, specifications, details.

*Based on average costs taken in the midwest in November, 1954.

Alumatic Corporation of America,
Contract Division
2081 S. 56th Street, Milwaukee 14, Wisconsin
Please send information on your "Guardian"
Aluminum Combination Window.

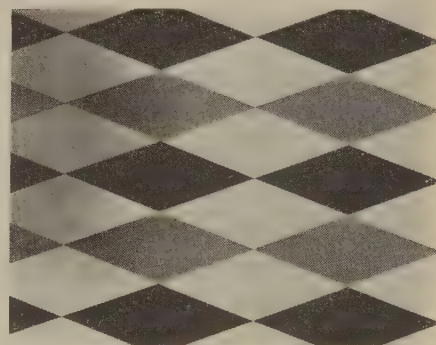
Firm.....
Name.....
Address.....
City.....Zone.....State.....

HH-1-54



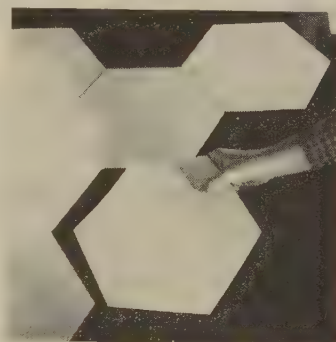
NEW PRODUCTS

Information on any new product reviewed in these columns may be had by writing the manufacturer, or by checking and mailing the convenient numbered coupon found on p. 260.



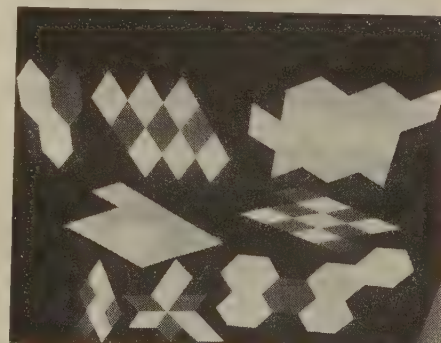
a. VINYL TILES are cut in modular geometric shapes to widen design possibilities

Almost limitless geometric designs in floor tile are possible with *Geometile*, Robbins' newest addition to their resilient flooring line, which is die cut into slim (45° and 135° angles) and fat (60°-120°) diamonds, hexagons and octagons that can be arranged



in any checkerboard, harlequin or star-burst pattern.

Three colors are offered (gray, gray-beige, and slate) and the tiles have already been specified as flooring in several new office buildings now on architects' boards, because of the design possibilities and the easy maintenance (buffing, instead of waxing, is



recommended for heavy traffic areas). The geometric shapes lend themselves to optical illusions which can be used to change the apparent shape of an awkward room, or to divide living areas.

Price: 85¢ per sq. ft. (volume orders)

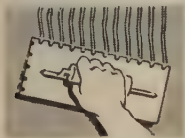
Manufacturer: Robbins Floor Products
Tuscumbia, Ala.

continued on p. 206

WALL CONSTRUCTION

COST!

WHY MASTIC-INSTALLED CLAY TILE SAVES BUILDING COSTS



◀ one coat of mastic is all you need on your dry wall bed.

tiles are floated quickly and easily on mastic bed. ▶



◀ grouting of tile joints is quick and easy.

job clean-up time is held to minimum. ▶



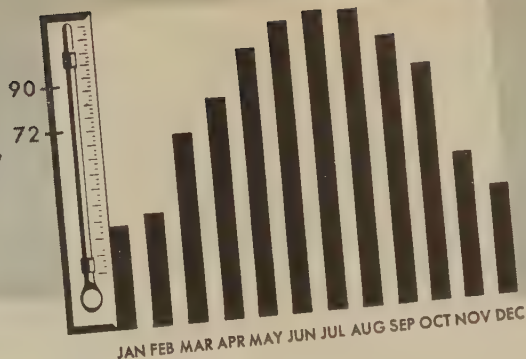
Be sure to look into mastic-installed Tilework on your next building project—clay tile sells homes faster!

GENUINE CLAY

tile



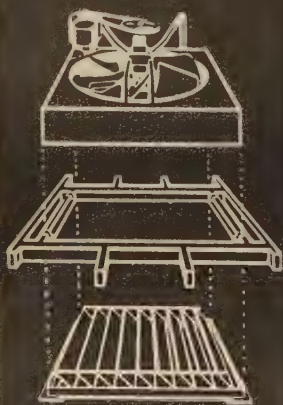
for
year 'round
livability



Attic Fan Central Cooling

by
Reed

Take a look at the temperature averages in your community, and you'll find that there are a surprising number of months during the year when attic fan ventilation-cooling is the PRIMARY method. For COMPLETE year-'round livability in new construction or remodeling, attic fan central-cooling is a must.



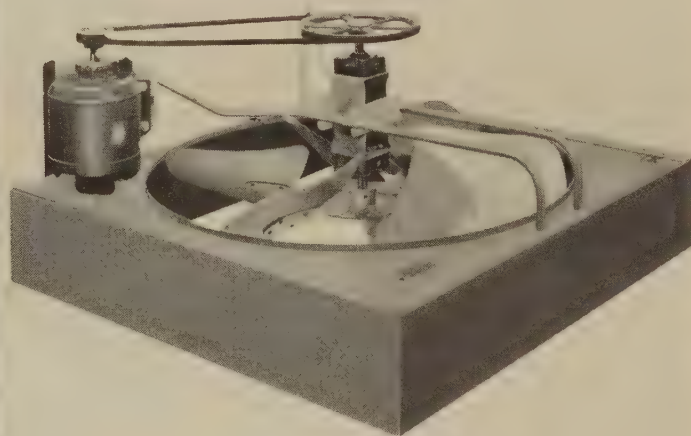
QUICK AND EASY TO INSTALL

Reed installation is clean as a whistle. Cut well opening, place fan on four supporting clips, tie in with wiring, fasten shutter to ceiling. That's all there is to it.

DISTRIBUTORSHIPS AVAILABLE

Valuable distributorships available in some areas. You are invited to write for full information.

REED UNIT-FANS, INC.,
1001 Saint Charles Ave.,
New Orleans, La.



REED RVU PACKAGED ATTIC FANS

Seven stock sizes, ranging from 5,000 to 18,600 CFM **certified** air delivery, pinpoints the **exact** ventilation-cooling requirements of every size home. **Quality** engineered and built for a lifetime of trouble-free service.

Reed Unit-Fans, Inc.,
New Orleans, La.

H & H - 1 - 55



Please send me full information about
Reed RVU Packaged Attic Fans.

Name.....

Company.....

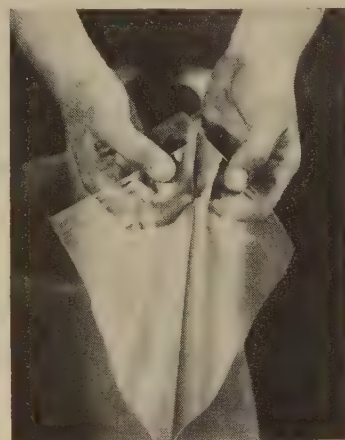
Address.....

City..... State.....

NEW PRODUCTS *continued from p. 202*

b. Polyethylene film gets up off the slab as an all-purpose vapor barrier

Anything that should be wrapped to keep moisture either in or out—like vegetables, or ammunition, or a house—can be packaged in polyethylene film, and from its original utilization as a vapor barrier beneath concrete slabs ("How to build a good slab house," H&H, July '53) the 2- and 4-mil thick sheets



Doubled sheets separate readily, as film does not stick to itself unless welded.

have graduated to walls, roofs, crawl spaces, shower stalls, painters' drop cloths, and a dozen other building uses.

The material is chemically inert, and not subject to deterioration. It can be lapped, taped or stapled, even welded with a hot iron (though widths up to 20' reduce the number of seams necessary), and the film



Concrete forms are lined with polyethylene to protect wood surface from moisture. Water will not pass through film.

does not turn brittle in the coldest weather. It is absolutely waterproof, and has a perm rating which places it among the most efficient of vapor barriers.

Handling the material is easy, due to its light weight (1,000 sq. ft. weighs only 19 lb. in the 4-mil thickness), and the tough film resists puncturing through careless handling. A thin layer of sand is enough to protect the material from sharp gravel edges.

Price: 4-mil thickness, 1½¢ per sq. ft.

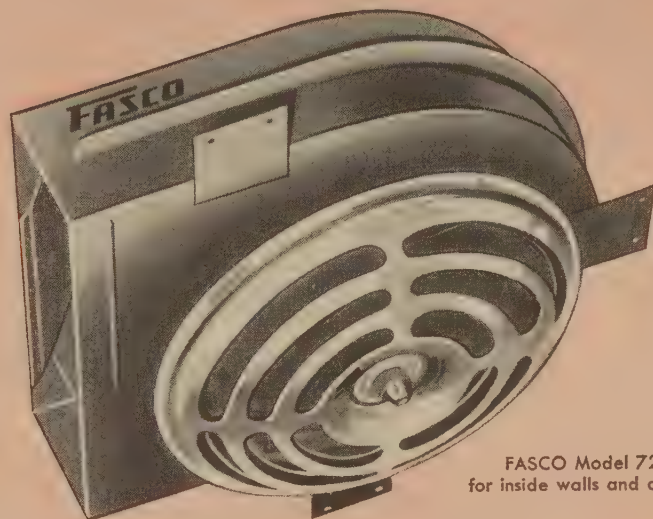
Manufacturer: The Visking Corp.
Plastics Div.
Terre Haute, Ind.

continued on p. 210

FASCO HOME VENTILATING FANS

for Kitchen, Bath and Utility Rooms

Easy to Install!
Whisper Quiet!
Tops in Looks!
Guaranteed
5 Years!



FASCO Model 728
for inside walls and ceilings

Write today for all the facts on
 FASCO Ventilating Fans

Home buyers everywhere are insisting on *complete* ventilation . . . in kitchen, bath and utility rooms—and FASCO gives them what they're looking for! Here is the one complete line of ventilating fans . . . offering a choice of styling; performance and price to satisfy everyone. Builders all over the country tell us FASCO ventilating fans are helping to sell their homes. Install FASCO . . . the leader in home ventilation.



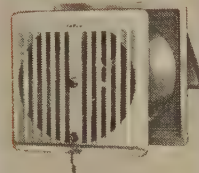
Model 1021
for inside walls and ceilings



Model 882—1082
for outside walls, wall switch operated



Model 880
for installation through ceiling and roof



Model 847—1047
for outside wall, chain operated



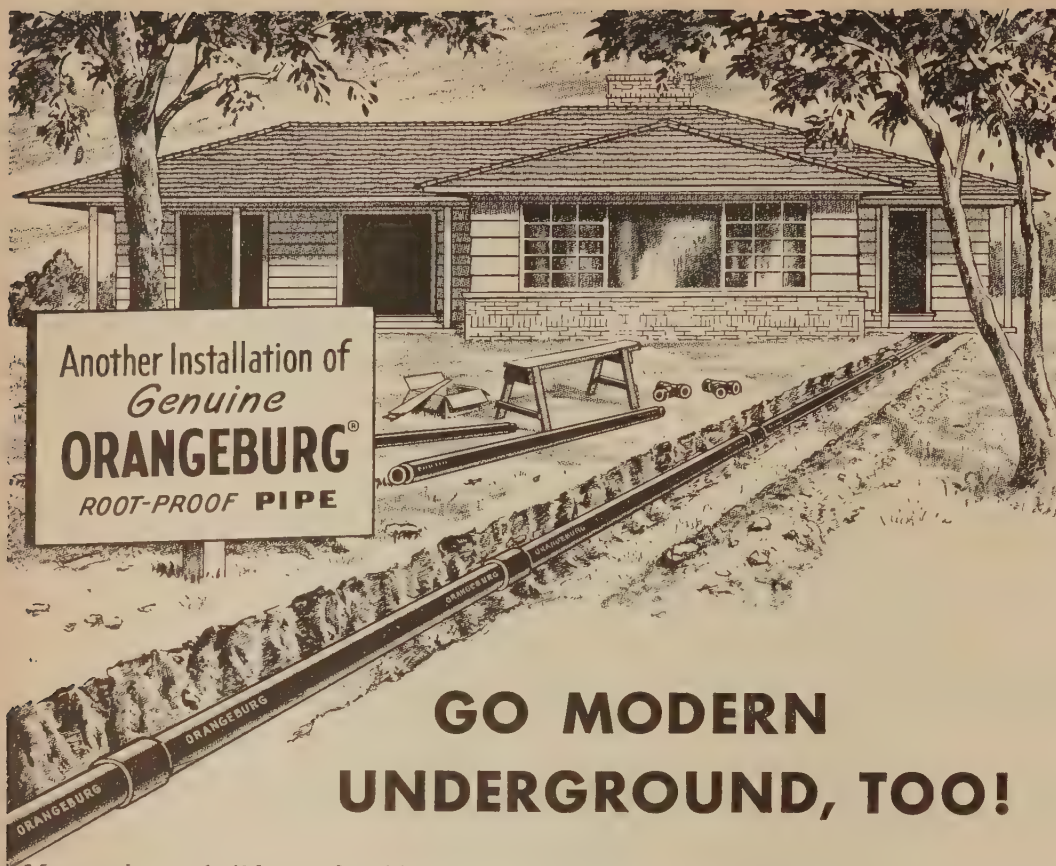
Model 728
for inside walls and ceilings

VISIT BOOTH 410 HOTEL SHERMAN at the Chicago Builders' Show in January and see the complete line of FASCO Ventilating Fans.

MANUFACTURERS OF THE
 ONE COMPLETE LINE
 OF VENTILATING FANS.

FASCO
 INDUSTRIES, INC.

315 Augusta Street
 Rochester 2, N. Y.



GO MODERN UNDERGROUND, TOO!

More and more builders and architects are turning to Orangeburg Root-Proof Pipe because it is ideally suited for modern construction methods (over one million installations are now giving trouble-free service to homes from coast to coast).

Today's construction demands speed and quality and Orangeburg's speed of installation and proved quality are unsurpassed by any other pipe.

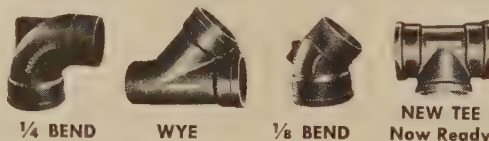
Orangeburg's famous Taperweld joints seal root-proof with a few hammer taps . . . no cement, no caulking, no compounds. The

long 8 ft. lengths are so light one man can easily carry several lengths . . . so rugged and durable that drain lines installed 49 years ago are good as new today.

Get all the facts, for where time is money, it pays to use *genuine* Orangeburg Root-Proof Pipe.

Use Orangeburg Root-Proof Pipe for house sewers, storm drains and other non-pressure lines. Use Orangeburg Perforated Pipe for septic tanks, disposal fields, foundation drains, wet spots everywhere.

ORANGEBURG ROOT-PROOF FITTINGS



1/4 BEND

WYE

1/8 BEND

NEW TEE
Now Ready

Orangeburg Fittings are precision made of famous Orangeburg materials and include a complete line of 1/4 bends, 1/8 bends, Wyes and Tees. Each fitting has the exclusive Taperweld Joint for making fast, root-proof joints.

ORANGEBURG® ROOT-PROOF PIPE

ORANGEBURG MANUFACTURING CO., INC. • Orangeburg, N. Y. • West Coast Plant, Newark, Calif.

SEND FOR ALL
THE FACTS

Orangeburg Manufacturing Co., Inc.
Dept. HH1, Orangeburg, N. Y.

Please send me all the facts on Orangeburg Root-Proof Pipe.

Name _____

Address _____

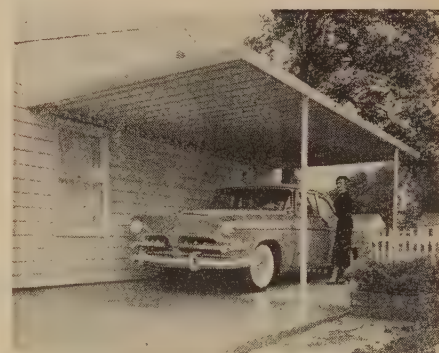
City _____

State _____

NEW PRODUCTS *continued from p. 206*

c. ALUMINUM CARPORT is prefabricated, can be used as patio or play area cover

A prefabricated 10' x 20' shelter that provides car cover or outdoor living space, and can be constructed in three to four hours has been introduced by Kawneer. Called the *Kawport* (Kawneer could not resist it!), the unit weighs only 225 lb., and comes boxed,



unassembled. One side bolts to the house, the other is supported on 2" pipe columns, 7'-6" above grade.

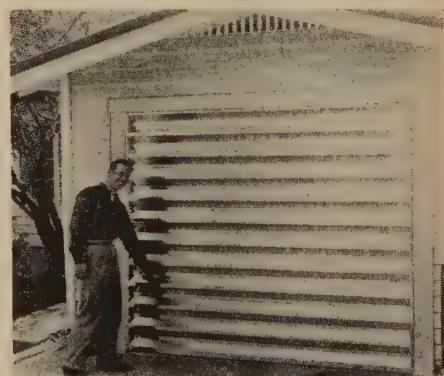
Louvered deck construction permits light to pass through the roof without loss of strength. The *Kawport* is rated at 30 lb. live load per sq. ft., and will hold as much as 30" of snow. The aluminum deck has the *Alumilite* finish that requires no painting, and if a garage is added to the house later, the entire unit can be disassembled and moved to a patio or play-yard location.

Price: \$295, F.O.B.

Manufacturer: The Kawneer Co.
Niles, Mich.

d. DO-IT-YOURSELF GARAGE DOOR can be assembled in one hour, hung in one more

For modernization work, or wherever the garage door is added after construction, the *Do-It-Dor* puts assembly and hanging in



the hands of the consumer. Packaged in one carton, the door weighs 42 lb., and operating hardware (either track or jamb-type) is packed separately. The packing carton, when folded and secured with tape, serves as a work trestle for assembly.

Speed nuts and bolts are used to fasten component parts, and the only tools required

continued on p. 214

TILTS!

for easy cleaning

Just listen to women talk! The Pryne *TILTING* Hood is the *first they've seen* that's so easy to clean they want to do it every day.

Never before was a hood so easy to clean! So convenient! So good looking!...

NO PROJECTIONS INSIDE THE HOOD to catch dirt and grease
—smooth surface throughout—even the light is “recessed”

...Equipped with the famous, powerful Blo-Fan (over a million in use) and Pry-lite recessed light. No wonder the women rave about it!
No wonder it is the most talked-about feature in a new home!

pryne

tilting

HOOD



It's good looking



and Tilts down



for easy cleaning



or can be removed.

IT'S A BLO-FAN — IT'S A PRY-LITE — IT'S A NEW IDEA!

Another
pryne
First!

pryne

rhymes with FINE...and means it!

Available in every locality thru more than 1200 franchised distributors of Blo-Fans and Pry-Lites.

Factories: Pomona, California; Keyser, West Virginia; Toronto, Canada
Warehouses: Los Angeles, San Francisco, Chicago, Newark, N. J.

Pryne & Co., Inc.
Box A-15, Pomona, California

Please send complete information
about the Pryne *TILTING* Hood.

NAME _____

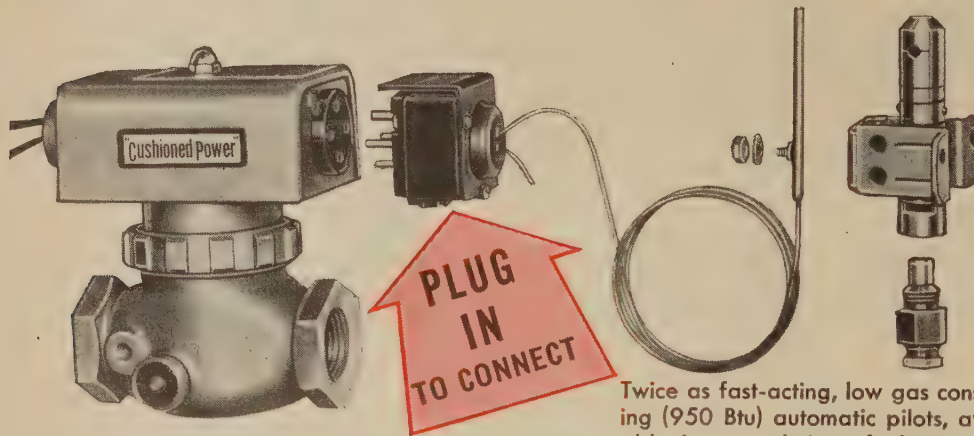
ADDRESS _____

CITY _____ ZONE _____

STATE _____

NEW Plug-In Combination

White-Rodgers **QUIET** Solenoid Gas Valve and Automatic Pilot

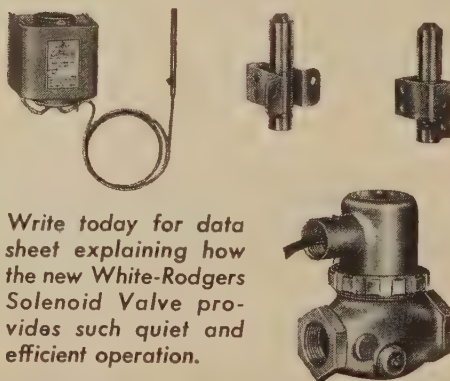


Twice as fast-acting, low gas consuming (950 Btu) automatic pilots, available in your choice of eleven stock types of different pilot burners; two kinds of brackets and three different orifice fittings—providing any combination for every gas-fired need.

*Now easier than ever to install—
Cuts inventory at factory or in the field*

More nearly silent than any solenoid gas valve because of its "Cushioned Power," the new White-Rodgers Solenoid Gas Valve now is available with a "Plug-In" Pilot. This automatic recycling pilot combines a powerful mercury-actuated element and a rugged snap-action switch. Units can be "plugged-in" at factory assembly, or in the field on installation. Cuts installation time, as well as inventories.

Available also as separate Automatic Gas Pilots or "Cushioned Power" Solenoid Valves.



Write today for data sheet explaining how the new White-Rodgers Solenoid Valve provides such quiet and efficient operation.

No matter how well built the heating plant you install...

if its performance depends on automatic controls...

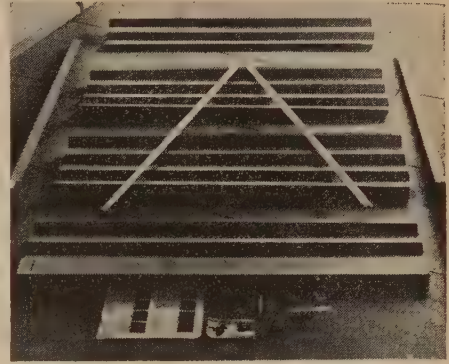
it can be no better than the controls with which it is equipped.



WHITE-RODGERS
Controls FOR HEATING · REFRIGERATION
AND AIR CONDITIONING

ST. LOUIS 6, MO.
TORONTO 8, ONTARIO

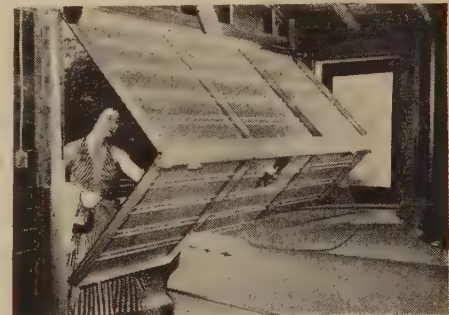
NEW PRODUCTS continued from p. 210



are a screwdriver and pliers. All holes are predrilled, and adjoining parts are marked with matching colors to make assembly fool-proof. The aluminum facing is the strong monocoque corrugation developed by the aircraft industry to add strength without additional weight, reinforced by heavy V-bracing on the inside to eliminate torsion, twist or sag. Two door sizes are made: 8' x 7', and 9' x 7'.

Retail price: \$55, complete with hardware (average freight costs)

Manufacturer: Stevens-Thuet Co.
2165 Cowles St.
Long Beach 13, Calif.



e. SELF-LIFTING GARAGE DOOR jackknifes up over car hood or rear deck

Newest overhead garage door from Reynolds Aluminum is a two-panel unit, hinged in the middle, that opens upward and inward with a gentle push at the midpoint. Because of the unique "jackknife" action, it requires only 6" clearance behind the car bumper, and takes up the same amount of headroom.

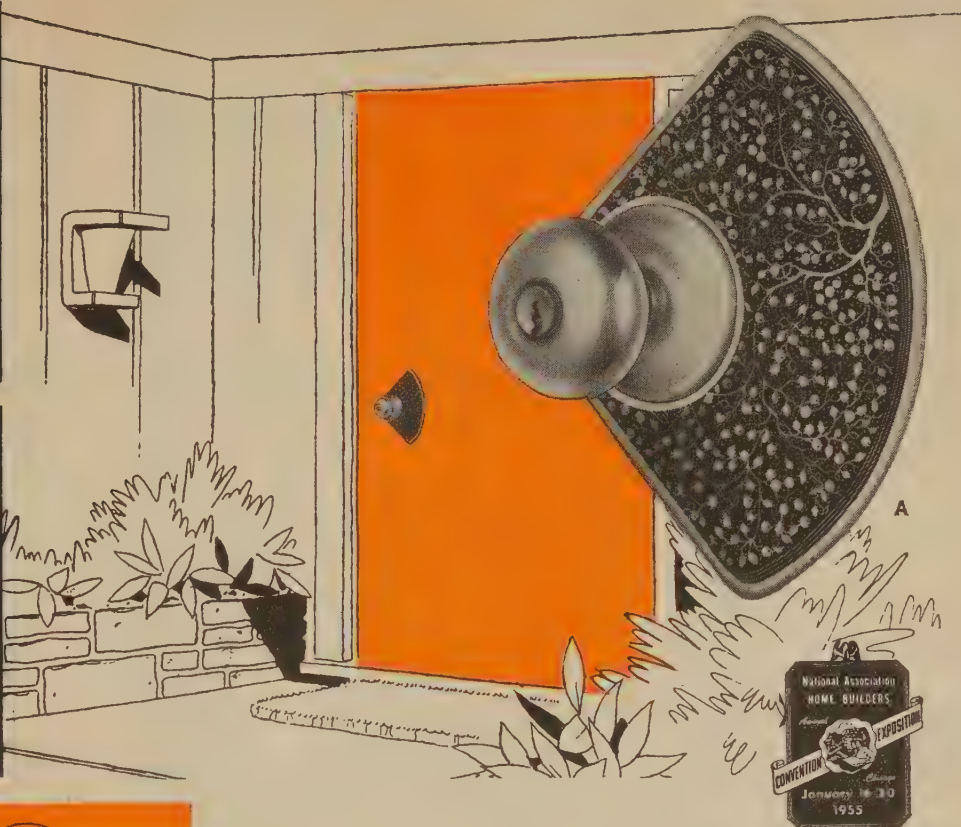
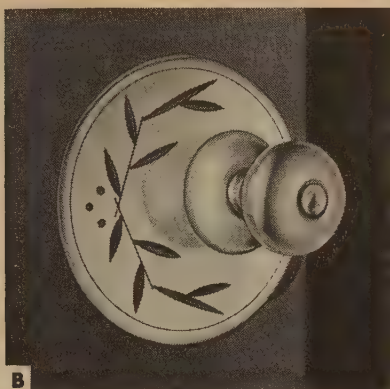
The almost automatic opening is accomplished through a torsion spring which winds a stainless-steel cable around a spiral cable drum at the top of the door. Both sides and bottom are weatherstripped, and lock and handle are mounted in a recessed cast-aluminum housing.

Framing is of extruded aluminum, welded for strength, and rollers are permanently lubricated, need no oiling.

Price: 8' x 7', \$95

Manufacturer: Reynolds Metals Co.
2000 S. Ninth St.
Louisville, Ky.

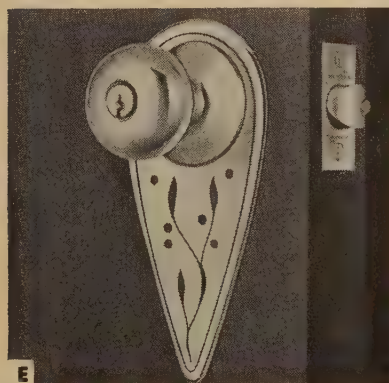
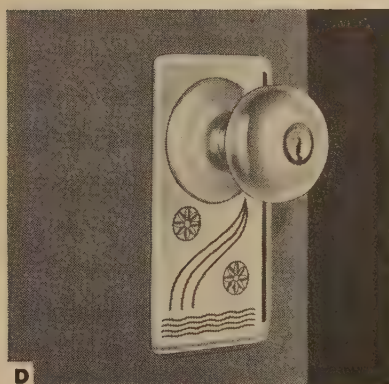
continued on p. 218



Decra-Dor

by LOCKWOOD...

CROWNING GLORY of the GREATEST LOCKSET PACKAGE, EVER



Decra-Dor escutcheon plates add a magnificent finishing touch to a lockset package that is the talk of the industry. First came Lockwood's 'C' Series, the finest lockset ever made for low-cost housing. Then came Speedril, the revolutionary new door boring tool that makes light work out of hard labor. **Now, with Decra-Dor**, this entire package is available to add new distinction, new richness, new beauty to every door in the house, no matter what the style of architecture.

Decra-Dor is the most exciting contribution to home decoration offered by a builder's hardware manufacturer in years. You can choose from five beautiful styles, with designs deep-etched in gleaming brass or satin-finish aluminum and skillfully inlaid with brilliantly colorful enamels.

Decra-Dor is going out to distributors *now*. If your local dealer has not yet received stock, ask him to have his jobber expedite shipment to fill your immediate requirements.

A. PERSIAN B. HARVEST C. RONDO D. COSMIC E. WOODBINE
All designs available in brass or aluminum

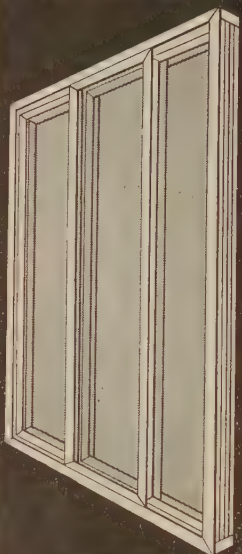
See **DECRA-DOR** and other exciting new **LOCKWOOD** products at the **NAHB Show** —
Booths 525-526, Hotel Sherman,
Chicago, January 16-20.

LOCKWOOD HARDWARE MANUFACTURING CO.
Fitchburg • Massachusetts

NOW! Fleet of America Announces

America's Finest

SLIDING WINDOW



It's the most beautiful window I have ever seen like gleaming silver



It's complete a double window with built-in storm window and screen. There's never been such a window before. Never such a wide selection of sizes and shapes.



DOUBLE SASH



TIGHT LOCKING
- WEATHER STRIPPED

It is engineered of extruded aluminum and like Fleetlite double, double hung windows

IT STOPS...

- WIND
- DUST
- NOISE
- HEAT
- COLD

Sash glide on nylon bearings easy as a breeze.



WRITE TODAY

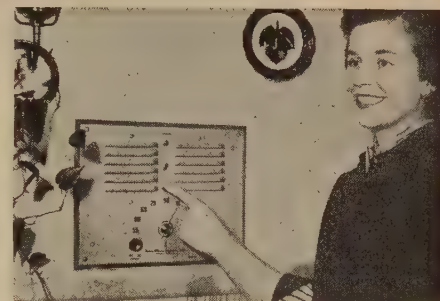
New Catalog shows many standard sizes and shapes of double windows — matching double hung, sliding and picture windows

Fleetlite
AMERICA'S Finest WINDOW

FLEET OF AMERICA, INC.
102 PEARL STREET, BUFFALO, N. Y.

See the Fleetlite Display BOOTH 432 SHERMAN HOTEL

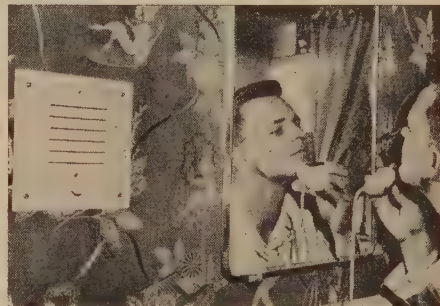
NEW PRODUCTS *continued from p. 214*



f. BUILT-IN RADIO SYSTEM pipes programs anywhere in house from central receiver

"She shall have music wherever she goes" becomes a reality with the *Homusic* system, a master unit (AM receiver, speaker and controls) and five substation speakers which can be located in any room in the house. Individual speakers have volume control; program selection for all of them is made from the master location.

Though the units may be installed in any



4" wall, the kitchen is the most favored location for the master unit. One electrical outlet in the wall will power the receiver. A complete rough-in kit and all wire necessary to connect the speakers are provided.

Price: radio and five speakers, \$159.95 (extra speakers \$12.50 each)

Manufacturer: Home Music Systems, Inc.
646 Madison Ave.
Memphis, Tenn.

g. WATER SOFTENER is styled like an appliance, needs no professional servicing

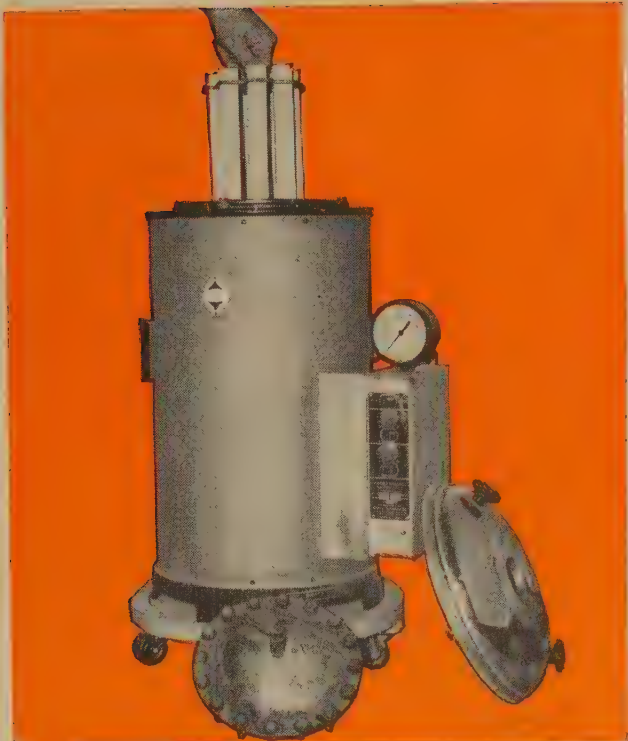
The jungle of exposed piping and valves associated with water softeners is missing in Culligan's newest version of their mineral-extracting unit, for all working parts are enclosed in an enameled cabinet 20" x 24½" x 36" that can be fitted beside laundry equipment or cabinets. Regeneration controls are hidden beneath a hinged lid, so that the top provides 3½ sq. ft. of counter-height working surface in laundry, kitchen or utility room.

Recharging the unit is automatic, after the home owner adds pellet-type salt and sets the controls.

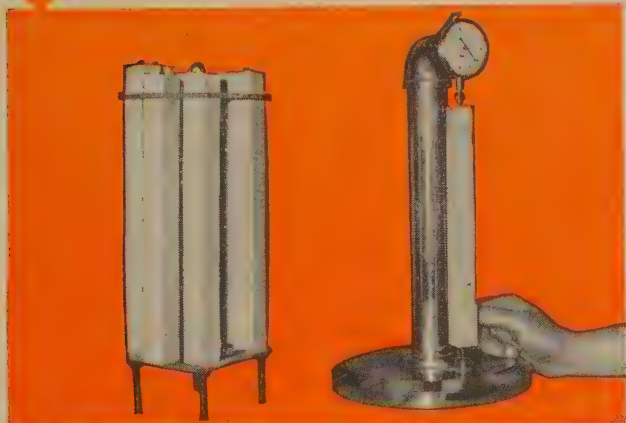
An electric timer carries the softener through the regeneration cycle, then returns it to service. The unit will remove as much

continued on p. 222

BRIXMENT MEETS AUTOCLAVE TEST!



The autoclave test requires the use of a high pressure steam chest (above). Masonry cement bars approximately 1" x 1" x 10" are exposed to 295 lbs. steam pressure, 420° F., for 3 hours. Measurements of the bars are made before and after test as shown below.



Below: Bars of Brixment, and of portland cement and a lime which does not meet the autoclave test. The expansion of the portland cement and lime bar, after autoclaving, is quite evident.

B—Brixment, not autoclaved.
B-a—Brixment, autoclaved.
PL—Cement and lime (1 to 1) not autoclaved.
PL-a—Cement and lime (1 to 1) autoclaved.



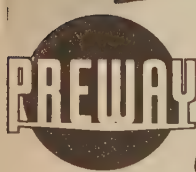
Sound mortar is essential for strong, durable brickwork. To be sound, mortar must be free of constituents which may cause abnormal expansion after long exposure to weather.

Unsoundness in mortar material is readily detected by the autoclave test. This severe test rapidly accelerates the chemical reaction of mortar materials, and the slightest unsoundness is immediately revealed by excessive expansion.

Brixment easily meets the autoclave test requirements of the Federal and ASTM specifications. It also complies with the strength requirements of both specifications, for Type II masonry cement. Therefore, when Brixment is used, sound mortar and strong, durable brickwork are assured.

LOUISVILLE CEMENT COMPANY
 Louisville 2, Kentucky





Wallchef Gas and Electric Bilt-Ins



OVEN-BROILER WALL
OPENING — 34 5/8" H.
x 22 3/8" W.
4-BURNER SURFACE
UNIT—24" W. x 22" D.

Center of interest in today's modern kitchen is the built-in range . . . and PREWAY'S dynamic gas and electric Wallchef and Counterchef make your functional kitchens better.

A glance will tell you they're styled to thrill women — the most beautiful gas and electric built-ins you've ever seen. A close look establishes PREWAY's outstanding performance presentation . . . full-sized ovens and broiler units with eye-level oven controls. No more stooping or bending! You'll like the clear-view glass oven window set in lustrous stainless steel with a push-button light that

illuminates the interior without need for opening the door.

The Counterchef is equally exciting to women. Surface units are available in clusters of two, four, six or eight as wanted. And every burner unit has an exclusive lift-out spill-over tray that eliminates messy drip pans.

If anything can sell a kitchen, the flexibility of Wallchef and Counterchef Bilt-Ins certainly can — for there is no price objection to stand in the way. Every home may have this happy installation because it goes in fast and easy, and costs no more than a conventional modern range. Behind these two units is a multi-million dollar company which has been making high-quality appliances since 1923. The full facts are yours for the asking. Phone, wire or write today for the name of the distributor in your area.



2155 Second Street North, Wisconsin Rapids, Wisconsin

NEW PRODUCTS *continued from p. 218*



as 50,000 grains of hardness from water, and provide enough soft water for the average family for approximately four weeks before recharging is necessary.

Price: \$350, plus installation

Manufacturer: Culligan, Inc.
Northbrook, Ill.



h. PAPER BATHTUB LINER protects tubs from construction damage

Few construction hazards are as prevalent—and as expensive—as chipping or marring of tubs. Workmen's shoes, dropped tools, accidental bumpings, any can make the replacement of a \$100 tub necessary. The *R&R Bathtub Liner* is an asphalt-laminated, string-reinforced kraft-paper buffer, sealed to the tub with pressure-sensitive tape. After plasterers, tile setters and painters have finished their work, the paper cover is stripped from the tub, taking all debris with it.



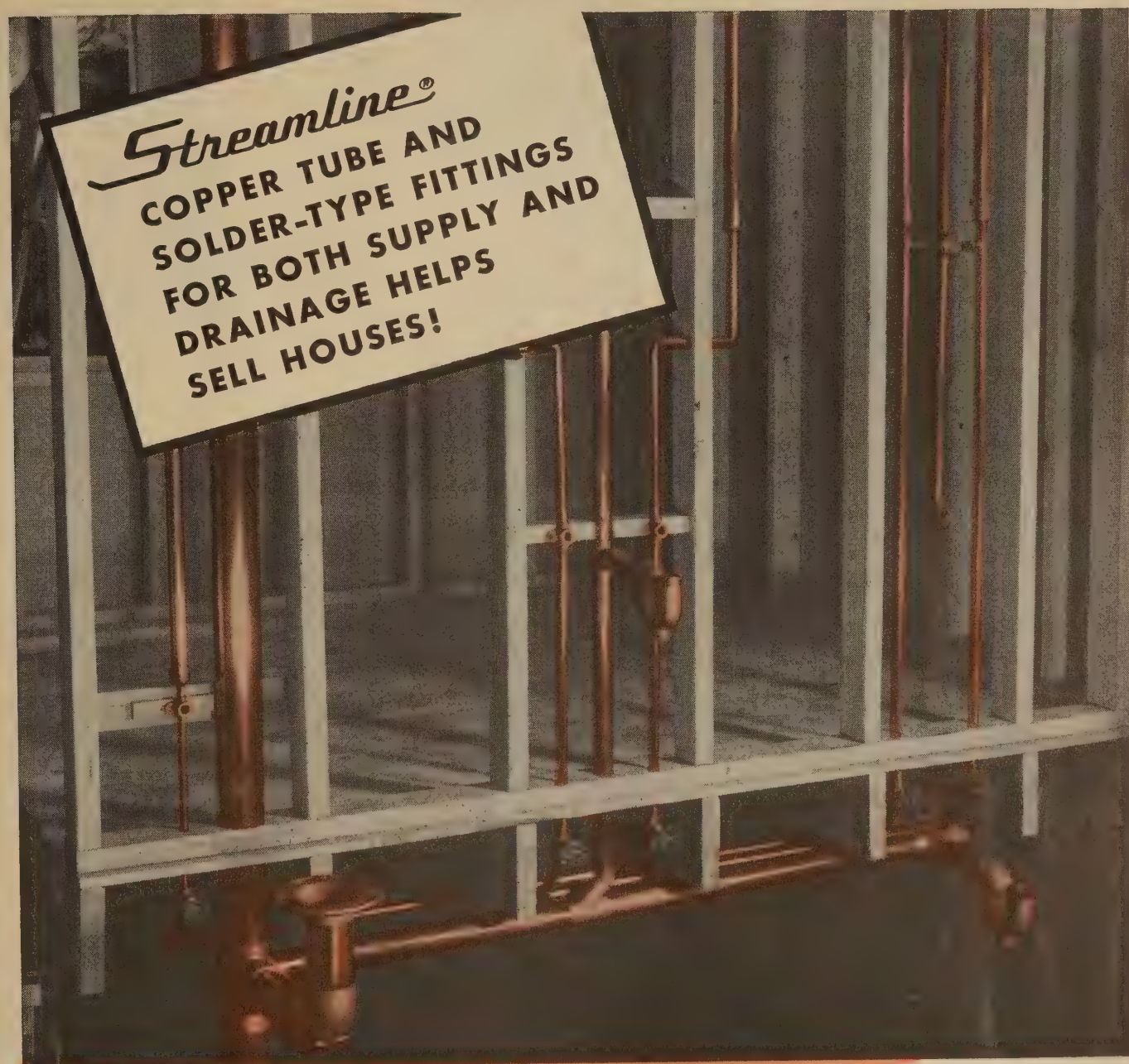
Liners are made to fit recessed, Bildor, or corner tubs, and may be adapted to fit 4 1/2', 5', or 5 1/2' tubs, left or right.

Price: \$1.25-\$1.50 ea. (packed 5 per bundle)

Manufacturer: R & R Paper Converting Co.
1412 E. 62nd St.
Los Angeles, Calif.

continued on p. 226

GIVE THE HOMEOWNER ALL COPPER FOR LESS



Here are a few of the many reasons why:

- Ease of installation makes copper less expensive than competitive materials.
- They can't rust, won't leak, are clog-resistant, and give a lifetime of trouble-free service.
- Compact fitting design allows 3" stack to be installed in a standard 2" x 4" partition.
- Neat appearance and space-saving features of Streamline copper tube and solder-type fittings add sales appeal.

Write today for latest Streamline Catalog, S-354, showing full range of styles and sizes, including roughing-in dimensions.



STREAMLINE DRAINAGE FITTINGS
MEET A.S.A. STANDARD B16.23

136-A



MUELLER BRASS CO.

PORT HURON 6, MICHIGAN



Mueller Climatrol announces the Suburbanaire line

**Mueller Climatrol quality
at competitive prices for your new homes**

Here is a *brand new line* — not to replace Mueller Climatrol's deluxe line, but to supplement it. Suburbanaire units let you use the strong sales appeal of Mueller Climatrol's famous, nationally advertised name — yet you need not pay a premium price.

You offer home buyers a lot of value for the money — these seven, new winter air conditioners are quality-built throughout. They are compact, attractive, shipped assembled and pre-wired, easy to install.

Here's the new *Suburbanaire* line-up:

Type 117 Gas-fired highboy. 80,000 and 100,000 Btu input.

Type 217 Oil-fired — otherwise identical to Type 117. 80,000 and 110,000 Btu input.

Type 118 Gas-fired, counter-flow, winter air conditioner. 100,000 Btu input.

Type 218 Oil-fired—otherwise identical to Type 118. 100,000 Btu input.

Type 119 Gas-fired lowboy. 90,000 and 110,000 Btu input. For basement installations.

Type 219 Oil-fired — otherwise identical to Type 119.

Type 165 (available soon) Gas-fired, horizontal, winter air conditioner. To be from 60,000 to 120,000 Btu input. For attic, closet, and crawl-space installations.

Visit us at the Builders Show and find out more about the new, competitive Mueller Climatrol Suburbanaire line. Or, send coupon now for further information.



See us at the Builders Show
Spaces 91-92-93
Main Exhibition Area
Conrad Hilton Hotel
January 16-20



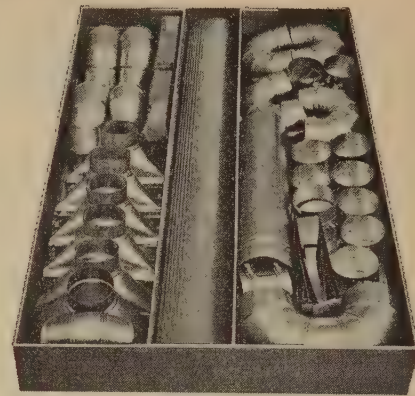
Tear out this coupon and mail today!

MUELLER CLIMATROL
Dept. 115, 2020 W. Oklahoma Ave., Milwaukee 15, Wis.
Tell me more about the new
Mueller Climatrol Suburbanaire line.

Name.....
Company Name.....
Address.....
City..... (.....) State.....

B-87

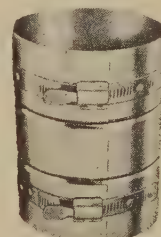
NEW PRODUCTS *continued from p. 222*



**WARM-AIR DUCTWORK AND FITTINGS for
a six-room house in one package**

Packaging of components is increasing rapidly, and the latest entry is in the heating field: the *Jenkins Pre-Pak*, which puts all pipe and fittings for a six-room house (up to 1,200 sq. ft.) in a single carton.

Four combinations are packaged, a perimeter duct or an extended plenum system, in 4½" or 6" duct sizes. Registers, return-air ducts and all fittings are included. In the



Patented connectors join sections

perimeter system, 100' of round pipe are included, while the extended plenum has 20' of square duct, and 60' of round. The 8" x 30" return air ducts are 12' long, but may be cut down to fit.

Price: \$130 (4½"), slightly higher west of the Mississippi

Manufacturer: Ralph Mfg. Co.
Box 188
Wadsworth, Ohio



**j. FIBERGLAS BLANKET acts as cushion for
applying new siding over old**

New siding installed on existing houses requires an underlayment to provide a smooth

continued on p. 230

systems can give you?

If you have never specified a drainage system in copper, ask your plumber to use ANACONDA Copper Tubes and Fittings for your next job and compare time and costs.

Shop fabrication of stack, waste and vent sections . . . ease of making solder connections . . . use of standard 20'-lengths for long runs . . . elimination of wide plumbing walls or "build-outs" — all add up to savings you can pass on to your prospects.

Many builders know what many plumbing contractors have proved: that soil, waste and vent lines of ANACONDA Copper Tubes and Fittings can cost less. Here are just 3 examples. (Names and addresses furnished on request.)

• **CASE A.** Plumbing Contractor "A" bid an "all-copper" job for a housing development—water and drainage lines. His bid was 10% lower than other bids based on copper for water pipe only.

• **CASE B.** Contractor "B" was awarded a job on a small-size house. Before he started, the owner changed the specification to copper. When the job was completed, he figured he had saved \$19.01 over a comparable installation of ferrous pipe.

• **CASE C.** Contractor "C's" figures show that on his first copper drainage system he cut installation time $\frac{1}{2}$, compared with similar size jobs using heavy wrought or cast piping.

In addition to installation savings, the use of nationally known ANACONDA Copper Tubes and Fittings adds to the salability of your homes. Your prospects know and respect copper's quality and freedom from maintenance.

Send for your free copy of "Copper Tube Drainage Systems." This booklet gives all the information you need on tubes, fittings and their installation. Fill in and mail coupon below.

5412

Advantages of copper tubes and cast bronze solder type drainage fittings for soil, waste and vent lines

- big savings in installation time and costs
- economies effected by pre-assembly work done in the shop or on the jobsite
- carpentry savings
- mark of quality construction

ANACONDA[®]
COPPER TUBES

Available through plumbing wholesalers



SAVES CARPENTRY AND SPACE. A 3" copper tube stack with fittings fits inside a 4" partition. Trim copper tube and compact fittings give greater freedom of placement . . . reduce cutting of studs and joists. No need to plan for wide plumbing walls or build-outs.

FREE BOOKLET!

The American Brass Company,
Waterbury 20, Conn.

(In Canada: Anaconda American Brass Ltd.,
New Toronto, Ont.)

Please send me free booklet, "Copper Tube Drainage Systems," which shows how to cut costs with copper.

NAME _____ (PLEASE PRINT)

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

Lawn Seed is like money!

"A pound of DIMES will
BUY MORE *
than a pound of pennies"



You're buying pennies when you seed with cheap lawn seed, for it's a mixture of coarse annual grasses (noxious weeds, too) that never can make beautiful lasting turf.

The real bargain is the pound of dimes. In lawn seed *that's Scotts* . . . nearly 3 million seeds in every pound. It's the blend of 100% perennial grasses (practically weedless) that develop into lasting velvety turf. Every family will enjoy it years after you have sold them a home.

A *Scotts* lawn also helps to make that original sale! Yes, *Scotts* seeded lawns are sound investments. Especially since they actually cost no more . . . help close deals and build good reputations.

Start now to profit from the extra value by saying, "My homes include *Scotts* lawns." Write our turf specialists for recommendations and details on *Scotts* builder service prices.

O M Scott & SONS CO

71 Spring St., Marysville, Ohio

also Palo Alto, Calif., Salem, Ore., and Cranbury, N. J.

* A pound of pennies is worth \$1.50, nickels \$4.55, and a pound of dimes \$17.70.



Scott's LAWN SEED

The time-proven blend of perennial grasses — makes a de luxe lawn in full sun or moderate shade. America's top formula year in and year out.

TURF BUILDER®

Gives grass a well balanced feeding at no more than 8¢ per 100 square feet. Easy to apply—feeds over a long period—encourages deep rooting.

Scott's SPREADERS

Handy carts that soon pay for themselves in time and materials saved. Positive rate control in seeding, feeding and applying weed controls—four popular sizes.

Other Scott Items—weed and pest controls including nationally famous SCUTL, sure-fire against Crabgrass.

Scott's
LAWN CARE
PRODUCTS

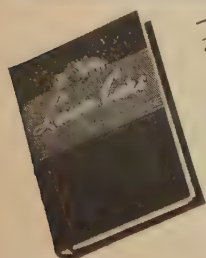
O M Scott & SONS CO, 71 Spring St, Marysville, Ohio
Please send your FREE Lawn Care file and gratis 2-year subscription to future issues.

Name
Address
City State

Free Lawn Building Help

Read LAWN CARE®

A complete file of back issues on soil conditioning, grading, drainage, feeding, seeding, etc., plus subscription to future issues — yours for the asking. No obligation, of course!



NEW PRODUCTS *continued from p. 226*



nailing surface, and *Fiberglas Siding Cushion* acts as a resilient blanket, high in acoustical value, with some insulation properties, fire- and rotproof.

Packaged 2' wide, ½" thick, in 200' rolls, the cushion weighs only 12½ lb. per roll, and is either nailed or stapled in place, onto old siding or new furring strips. It is easily cut to fit around windows, doors, or other openings.

Applied under the siding, the blanket fits snugly against laps and joints to reduce wind-blown moisture or dust, but is completely vapor-permeable, so that there will be no condensation within the cushion.

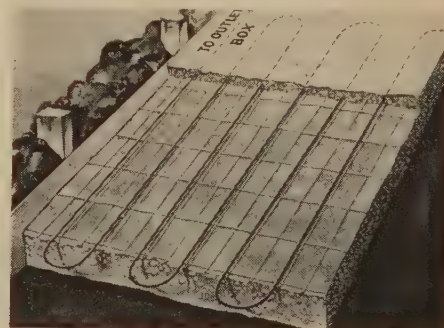
Price: Approximately 4¢ per sq. ft.

Manufacturer: Owens-Corning Fiberglas Corp.
Toledo 1, Ohio

HEATING CABLE is packed in mineral insulation, can be buried in concrete

Driveways and porches can be kept clear of ice and snow with an electrical cable which can be buried in the slab, is impervious to moisture and chemicals, and can be bent, twisted, or flattened without being damaged.

The resistance elements, nickel-copper conductors, are embedded in inert mineral



insulation, and protected by a seamless copper sheath, with its temperature controlled by a thermostat. In other uses, the cable may be left exposed or wrapped around outdoor pipe lines.

Price: 62¢ per lin. ft., plus controls and terminations

Manufacturer: Continental Electric Equipment Co.
Box 1055
Cincinnati 1, Ohio

continued on p. 234

CONCLUSIVE PROOF

that correct gas venting
requires an insulated vent

PROOF OF LOWER HEAT LOSS

— only an insulated vent conserves maximum vent gas heat to assure more venting power and prevent condensation.

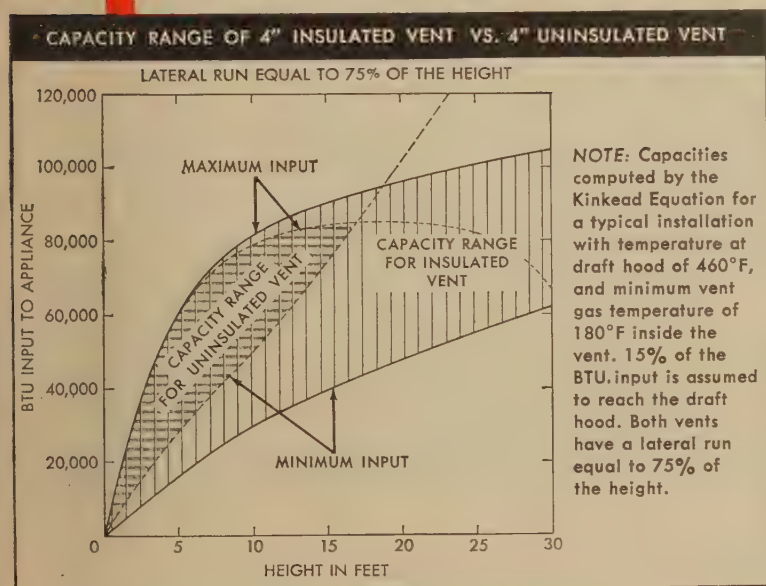
COMPARISON OF HEAT LOSS THROUGH INSULATED (METALBESTOS) AND UNINSULATED* VENT PIPE						
Distance Along Vent From Draft Hood	Type of Vent	Heat lost from vent gases (in BTU. per hour)				
		2000	4000	6000	8000	10,000
10 ft.	METALBESTOS	20	40	60	80	100
	UNINSULATED VENT	20	40	60	80	100
20 ft.	METALBESTOS	20	40	60	80	100
	UNINSULATED VENT	20	40	60	80	100
30 ft.	METALBESTOS	20	40	60	80	100
	UNINSULATED VENT	20	40	60	80	100
35 ft.	METALBESTOS	20	40	60	80	100
	UNINSULATED VENT	20	40	60	80	100

NOTE: Calculations based on 5" vent pipe with a height of 20' and a lateral run of 15'. Appliance input is 125,000 BTU. with 15,000 BTU. per hour assumed to reach the vent at the draft hood.

*Uninsulated vents are vents such as single-wall sheet metal, cement-asbestos and terra cotta.

PROOF OF BETTER PERFORMANCE

— only an insulated vent provides maximum venting capacity.



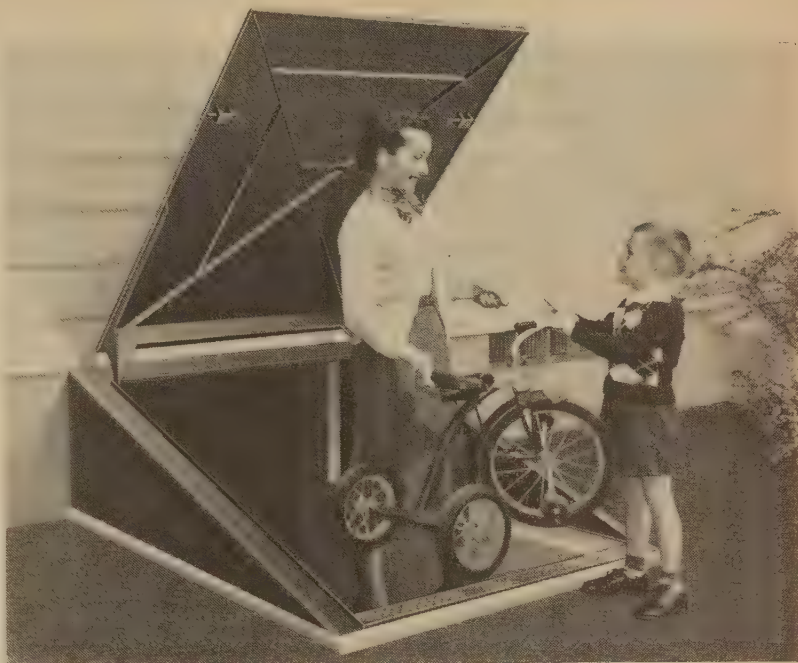
Be sure of safe, correct venting—
specify **METALBESTOS**—the first and leading double-wall, insulated gas vent pipe.



METALBESTOS DIVISION
WILLIAM WALLACE COMPANY • BELMONT, CALIF.

Stocked by principal jobbers in major cities. Factory warehouses in Atlanta, Dallas, Philadelphia, Des Moines, Chicago, New Orleans.

For direct, easy access
from basement to outdoors

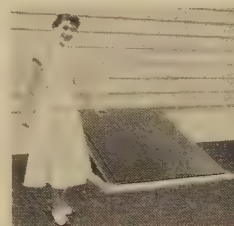


...home buyers want this
new basement entry!



Opens with one finger

Special double-action spring suspension counter-balances the weight of the sturdy steel door.



Simple, modern lines

Blends with any style of architecture, becomes an integral part of the house itself.

When prospective buyers see the new Service-way in the homes you build, they are immediately sold on this convenience that gives them full use of their basements.

Service-way owners daily find new reasons to appreciate this modern basement entry. Easy storing of bicycles, storm windows, bulky lawn and garden tools. Wide clearance for freezers, work benches, ping-pong tables. The shortened route from laundry to clothesline. The tight security against wind, weather . . . and burglars.

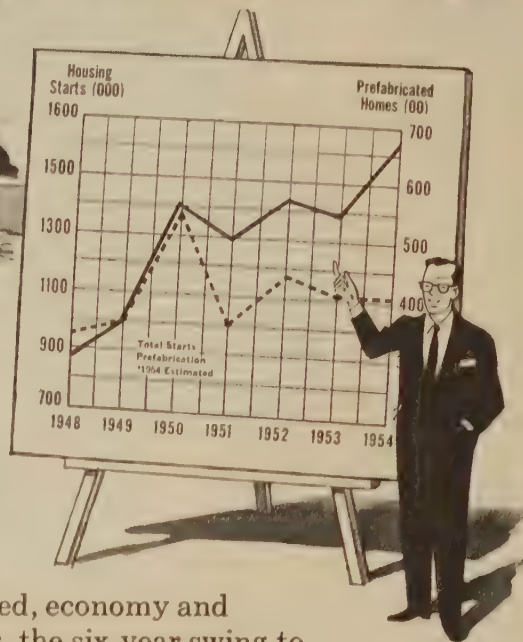
All Welded Construction

The Service-way is made of heavy-gauge steel with special reinforcing for greater rigidity. The single one-piece door is double flanged to keep out rain, snow and wind. Slide bolts lock securely from inside. No wood to rot, no hardware to break. The Service-way will last as long as the house itself.

Comes fully assembled, ready to install. Made by the makers of the famous Heatilator Fireplace. Write for folder and specifications: Heatilator, Inc., 251 E. Brighton Ave., Syracuse 5, N.Y.

HEATILATOR®
SERVICE-WAY

PREFABRICATED HOME BUILDING UP 22% over a year ago!



Better Value

is the reason for prefabrication's sensational 22 per cent gain over a year ago.

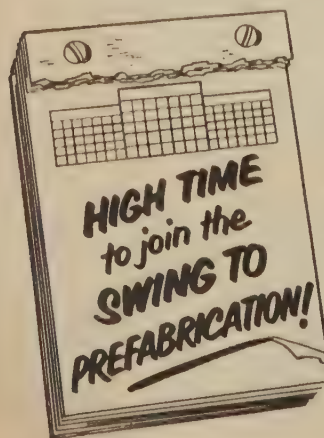
In the present market where the premium on speed, economy and quality is bigger than ever, the six-year swing to prefabrication is stronger than ever.

Investigate — if you haven't already — the advantages prefabricated home building has for you.

It's High Time to determine to your own satisfaction how well prefabrication meets all of these requirements for quality homes at popular prices:

- Precision-engineering
- Flexibility of design
- Predetermined costs
- Higher resale value
- Quality materials
- Shorter erection time
- Faster starts and completions
- Better architectural planning and design

Write for a list of home prefabricators and learn the advantages of a dealership.



Subscribe to "PF", the official monthly journal of PHMI to keep fully informed of new opportunities in this fast growing field. \$3 a year.

PREFABRICATED HOME MANUFACTURERS' INSTITUTE



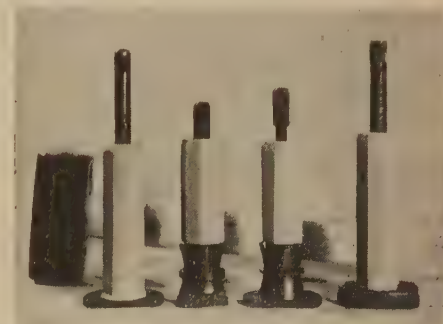
930-20th Street, N.W.
Washington 6, D.C.

NEW PRODUCTS *continued from p. 230*



I. FASTENING TOOLS drive tempered nails by hand into concrete or through steel

Wherever components must be hung from steel or concrete, workmen have the time-eating job of drilling or boring holes for fasteners, if they do not have power-actuated drivers. But a European-born (Liechtenstein) system enables any workman to punch hardened steel nails or studs through $\frac{1}{4}$ "



steel plates or into the densest concrete with a few hammer blows.

The hand-held steel tool has an enclosed plunger that grips the nail and channels the entire driving force along the shank length, forcing it into any material without risk of bending the nail. Variations of the basic tool are made for electrical, plumbing or carpentry trades.

Fasteners come in a variety of lengths, with both nailhead and threaded ends, and are exported to the US by the manufacturer along with the driving tools. Distribution here will be taken over by Realtor Robert Dowling's City Investing Co.

Prices: Nailing tool, under \$20; stud driver, under \$12. Drive nails, \$3 to \$9 per 100, threaded head, \$1.20 to \$4 per 100.

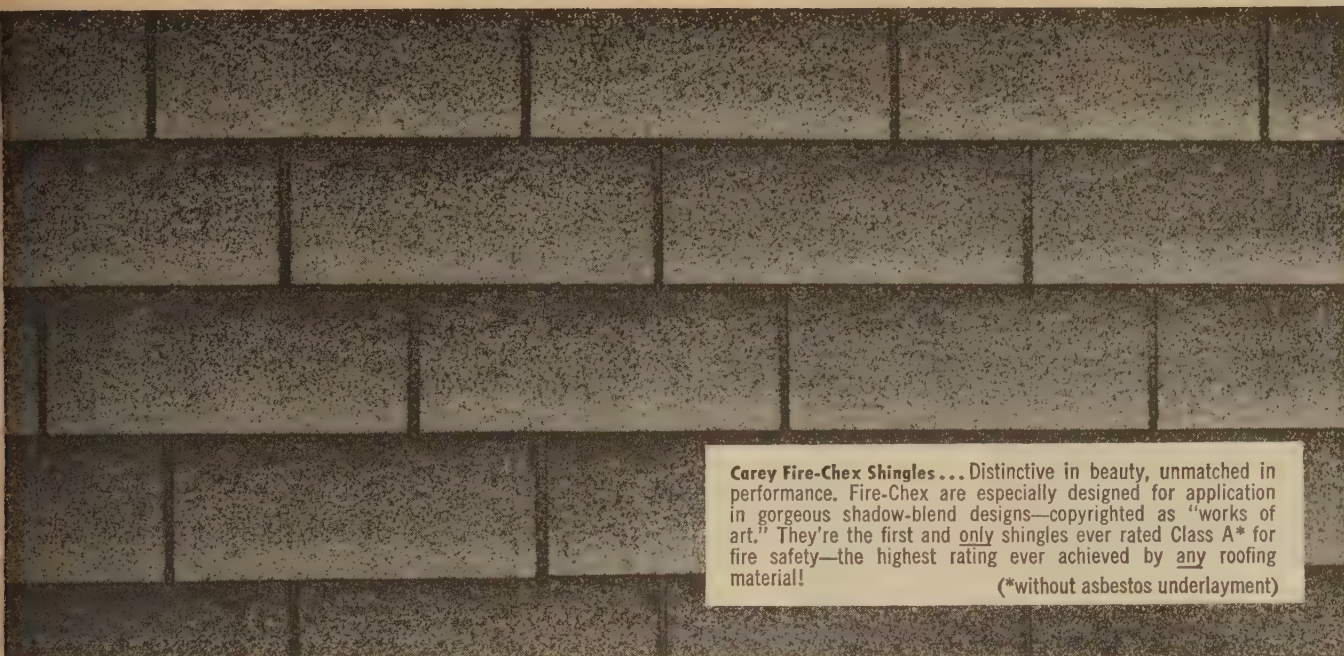
Manufacturer: Maschinenbau Hilti Schaan-Forst, Liechtenstein

Distributor: City Investing Co.
25 Broad St.
New York City, N.Y.

m. PLYWOOD is peeled from 300' high New Guinea trees to form seam-free panels

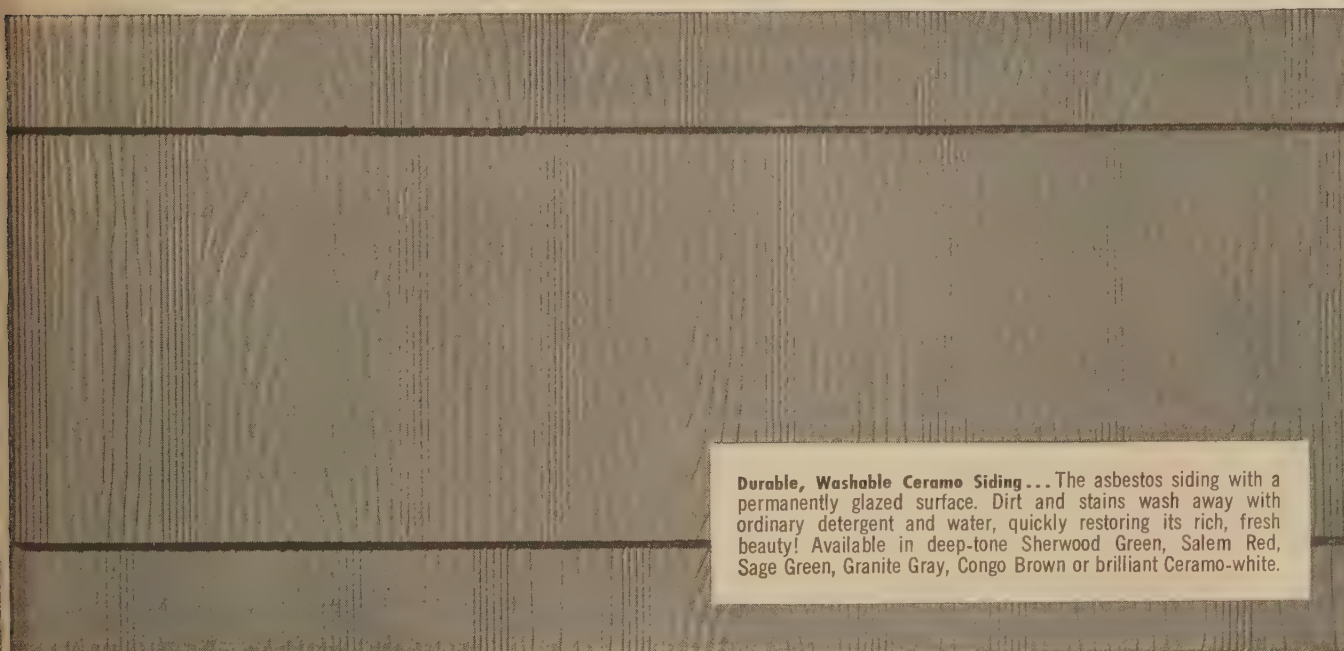
The rain forest of New Guinea has some ideal conditions for tree growth (80°-90° temperatures, and constant moisture), and plywood made from the jungle's 300' giants

continued on p. 238



Carey Fire-Chex Shingles... Distinctive in beauty, unmatched in performance. Fire-Chex are especially designed for application in gorgeous shadow-blend designs—copyrighted as “works of art.” They’re the first and only shingles ever rated Class A* for fire safety—the highest rating ever achieved by any roofing material!
(*without asbestos underlayment)

is ringing up home Sales!



Durable, Washable Ceramo Siding... The asbestos siding with a permanently glazed surface. Dirt and stains wash away with ordinary detergent and water, quickly restoring its rich, fresh beauty! Available in deep-tone Sherwood Green, Salem Red, Sage Green, Granite Gray, Congo Brown or brilliant Ceramo-white.

Use this handy coupon →

Serving Home, Farm and
Industry Since 1873

Carey

The Philip Carey Mfg. Company
Lockland, Cincinnati 15, Ohio

The Philip Carey Mfg. Company — Dept. HH-1
Lockland, Cincinnati 15, Ohio

Please send us, without obligation, literature on the following:

- ☐ Fire-Chex Shingles ☐ Careystone Siding
☐ Thick-Butt Shingles ☐ Ceramo Siding
☐ Give me the name of my nearest Carey dealer.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

NEW kewanee

"Kwik-Fit"

DOOR FRAME*

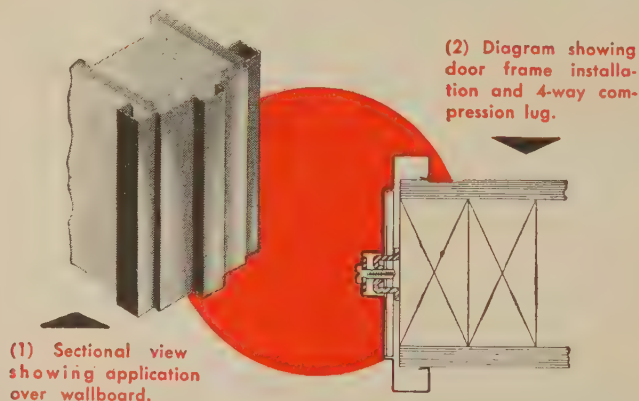
... install it after drywall is in place!

... install it in 3 minutes with 4 nails!



* Patent Applied For

- Fits snugly over finished wall after finished wall and floor are in place. There is no interference with application of wall board.
- Equipped with 4-way compression lug on each jamb. A turn of the screwdriver — (A) Plumbs jambs. (B) Holds frame securely in place. (C) Tightens up mitered corners. (D) Compensates for warping or settling.
- Rubber bumpers act as door silencers and prevent door rattles. No adjustable strike plate necessary.
- Appearance of long narrow lines blends with modern architecture. Mitered corners cannot open or overlap.
- Baseboard applies flush to jambs of frame.



Available for all standard sizes of 1 3/8" interior doors.
For use with 1/2" wallboard.

FOR DETAILS AND SPECIFICATIONS OF OTHER
KEWANEЕ BUILDING PRODUCTS WRITE FOR
OUR COMPLETE CATALOG

kewanee *Manufacturing Company*

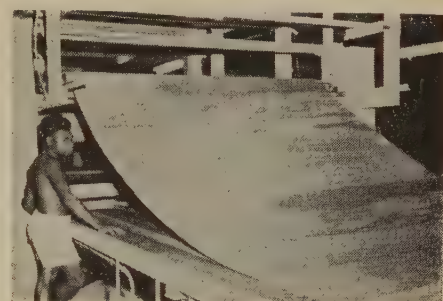
155 CLARK STREET KEWANEЕ, ILLINOIS

SEE IT IN BOOTH NO. 310 AT THE CONVENTION

NEW PRODUCTS continued from p. 234

(*Araucaria Klinkii*) is now being imported into the US at the rate of 3 million sq. ft. per month.

Klinkii plywood is peeled by the most modern machinery, tended by native workmen, and the plies are so near perfect that there are no core voids, and at least one face can be seamless, as well as defect-free. No filler is needed in the tight-pored surface,

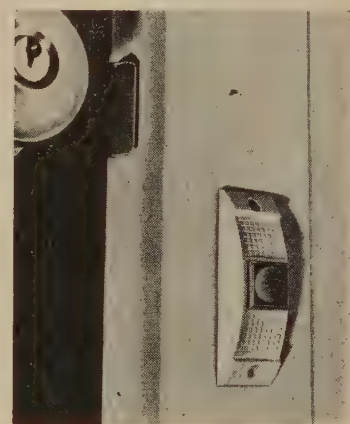


and fewer finish coats are required to bring out the wood's patina.

Patterns range from straight grain to a tiny bird's eye, and even the second-grade face has no more than three matched joints. Core and back specifications are correspondingly high in the 1/4" and 3/8" panels being imported. Plans are being made to import veneers and to laminate 3/4" stock on the West Coast, since this thickness pregglued would call for prohibitive shipping costs.

Price: 4' x 8' x 1/4" panels, 19¢ per sq. ft.;
3/8", 30¢ per sq. ft.

Manufacturer: Fiddes-Moore Co.
400 W. Madison
Chicago 2, Ill.



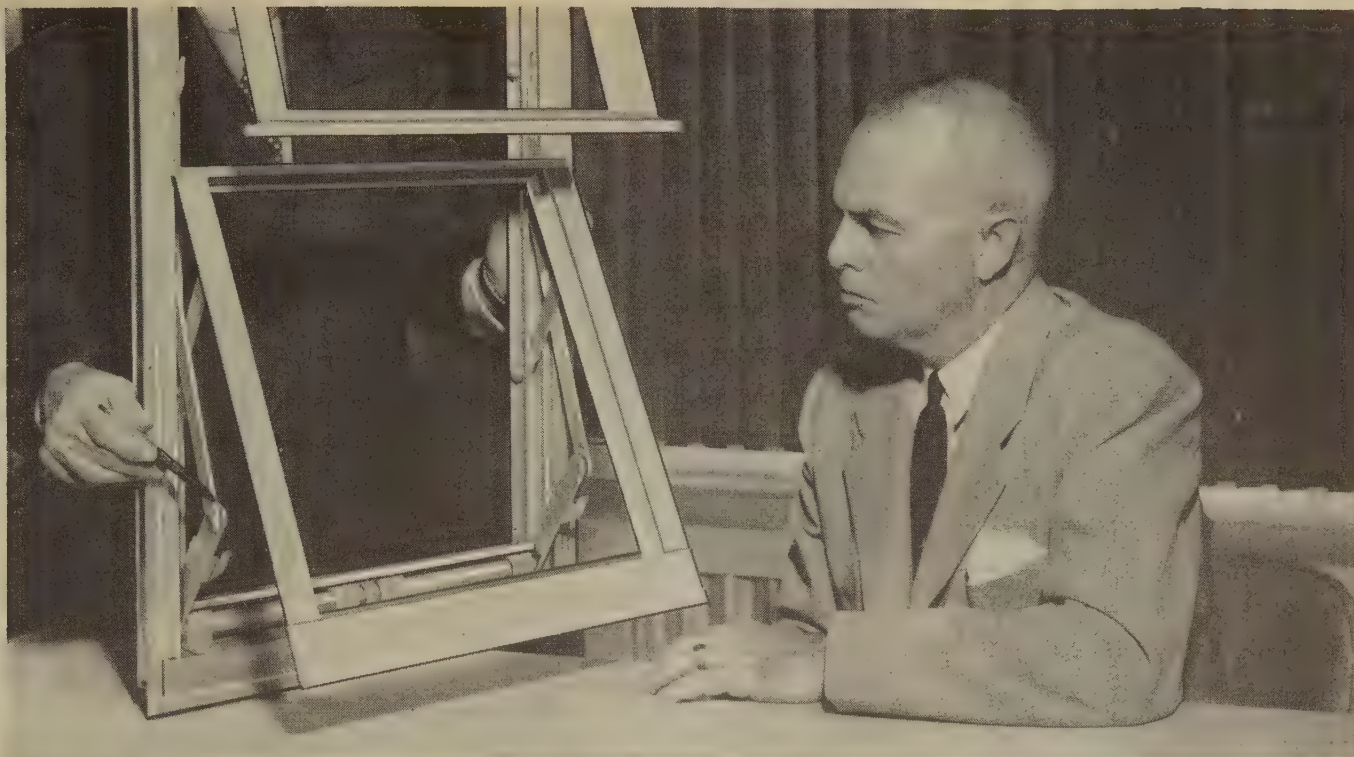
n. DOORBELL PUSH BUTTON puts a spot of color at entrance to welcome visitors

A tiny, but colorful, detail for the contemporary house is the *Magic-Touch* push button, a two-color plastic device for actuating buzzers, bells or chimes. Available are black with white center, gray with maroon, white with red, and brown with yellow. Attaching screws are included.

Price: 27¢ each

Manufacturer: Rodale Mfg. Co.
Emmaus, Pa.

continued on p. 244



A.I.A. ARCHITECT, THOMAS F. FAIRES,
Thomas F. Faires & Associates, Memphis, Tennessee,
studies the advanced- design features of the Ualco Awning Window.

Ualco's linkage with oilite bearing rollers *uniformly actuate both sides of ventilators*



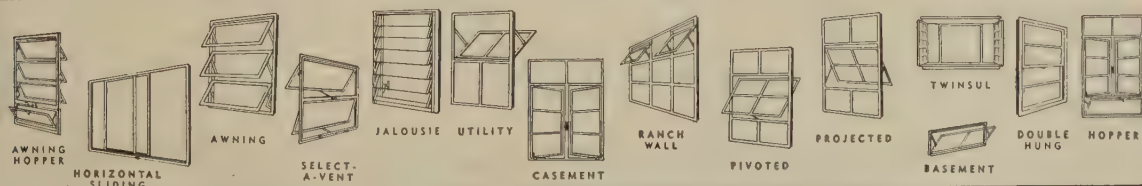
SPECIFY UALCO'S ADVANCE-DESIGN AWNING TO GIVE CLIENTS TROUBLE-FREE SERVICE — ALWAYS!

Finger-tip control is all that's ever required to operate this remarkable awning window! Operating power is transmitted from the operator through the torsion rod, which is encased in four pillow block oilite bearings in the sill, to the roller operating linkage in both jamb sections. Thus, power is transmitted *equally* to the movable bars and lugs that engage weatherseal hooks located on both sides of all vents. This eliminates the possibility of strain which causes unequal pressure, wear and inefficient operation. Ualco Awning Windows require no adjustments . . . are maintenance-free!

In addition, Ualco's extruded frames have greater tensile strength to fill all architectural requirements . . . will never rot, rust, warp, shrink, split or need painting!

★ **ENGINEERING PLANNING SERVICE**

to assist architects, engineers and contractors in making "take-offs" and solving window problems. SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE 16A OR WRITE US FOR COMPLETE INFORMATION.



SOUTHERN SASH SALES & SUPPLY CO.
SHEFFIELD, ALABAMA

WAREHOUSES AND SALES OFFICES: Canton, Ohio; Elizabeth, N. J.; Hialeah, Fla.; Florence, Ala.; Montgomery, Ala.; Van Nuys, Calif.; Greensboro, N. C.; Aurora, Ill.; Ruston, La.; Kansas City, Mo.



**WORLD'S LARGEST
MANUFACTURER OF
ALUMINUM
WINDOWS!**

**UALCO WINDOWS
ARE UNCONDITION-
ALLY GUARANTEED
AGAINST DEFECTIVE
MATERIALS AND
WORKMANSHIP**

houses sell **FASTER** with Brown's **SUPERCEDAR**

CEDAR Lined Closets



... yours to install
for little OR
no more cost than
ordinary plaster!

It's a fact! You can include the beauty of genuine aromatic red cedar closets in your houses at practically NO EXTRA COST! It's a SALEABLE feature that will help you sell faster, for it appeals to both men and women.

SUPERCEDAR nails directly to open studding, or over old wood and plaster. Never needs painting. It is 90% Red Heart wood with 100% cedar oil content for lasting fragrance and protection.

Available in various face widths in 4- and 8-foot, waste-saving FACTORY SEALED bundles. Nationally advertised in leading magazines and fully guaranteed.



Sold Through
Building Supply
Dealers Everywhere!

WRITE for complete information—

GEO. C. BROWN & CO., INC.

Largest Mfrs. of Aromatic Red Cedar in the World
Greensboro, N. C. Established 1886

NEW PRODUCTS *continued from p. 238*

a. AIR CONDITIONERS for houses with wet heat or floor furnaces need minimum ducts

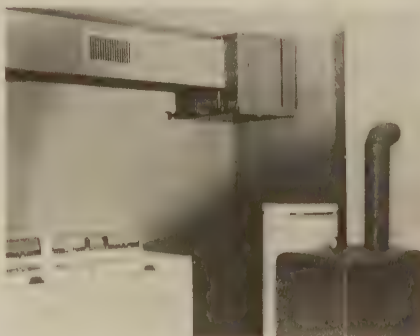
Unless a house has a forced-air heating system, it has no ducts to carry cooled conditioned air, but Carrier's newest *Weather-maker* units make a positive virtue of this lack. Designed for installation completely



Horizontal arrangement permits *Weather-maker* to fit into crawl space.

free of the heating system, the cooling plant is centrally located in attic, dropped hall way, or crawl space, with short, economical stub ducts to all rooms. These inside-the-house air conditioners are 21" high, 29" wide and 24" deep.

Though only slightly larger than most room coolers, the 2-ton unit will cool, dehumidify,



No floor space is needed in utility room since unit may be hung from ceiling.

and circulate filtered air to the average three-bedroom house. Refrigeration is supplied by two small copper tubes which connect the distribution unit to the air-cooled refrigeration unit located anywhere outside the house in a weatherproof and tamperproof cabinet.

This *Weathermaker* is Carrier's third entry into the house-cooling field, complementing their year-round heating and cooling plants, and the conversion *Weathermakers* introduced last year as add-on units for use with existing warm-air systems. A 3-ton and a nominal 5-ton unit will also be manufactured. Biggest market is foreseen for areas where the majority of home buyers prefer wet heat, and for air conditioning modernized older houses.

Price: 2-ton, approximately \$1,300 to \$1,400 including ductwork

Manufacturer: Carrier Corp.
300 S. Geddes St.
Syracuse, N. Y.

Veni-Flex WOVEN WOOD SLAT FOLDING DOORS



CUT Construction COSTS

Save as much as 50% on construction costs with Veni-Flex doors! Replace expensive overdoor framing and door returns with versatile Veni-Flex, and eliminate the cost of studding, plastering and painting openings . . . give your customer greater floor space and a textured touch of modern decoration. Veni-Flex is ideal for use as a closet closure, room divider, utility closet door, or for special decorative applications in today's "open" architecture.

ROL-TRAK GUARANTEES SMOOTH DEPENDABLE OPERATION



ROL-TRAK PROVIDES EASY-GLIDE OPERATION Exclusive Rol-Trak hardware assures fingertip control . . . years of trouble-free service . . . attractive appearance.

Be Sure to Visit
Our Exhibit at the
**CONRAD HILTON
HOTEL**
EXHIBIT SPACE 390



Consolidated
GENERAL PRODUCTS, INC.
24th and Nicholson Houston 8, Texas

The Modern Solution to Your "More Storage" Problems

GLIDE-ALL® Sliding Doors

ATTRACTIVE IN APPEARANCE—So neat and simple, in the modern trend to functional design, they decorate with the wall*... make rooms seem larger. When open they expose massive, accessible storage space.

LOW IN COST—Engineered for today's specific building requirements... made of carefully selected top quality materials... in modern plants with modern facilities—resulting in low product costs. Floor-to-ceiling, wall-to-wall installation saves expense of construction time and materials.

EASY TO INSTALL—Without costly preparation, they're installed in 3 simple steps... in minutes not hours, by even unskilled labor... by anyone who can use a screwdriver.

SIMPLE TO ADJUST—Positive adjustment features assure perfect fitting of panels to out-of-square jambs, ceilings or floors. This eliminates problems in installation, and in later adjustments as the structure may move or settle.

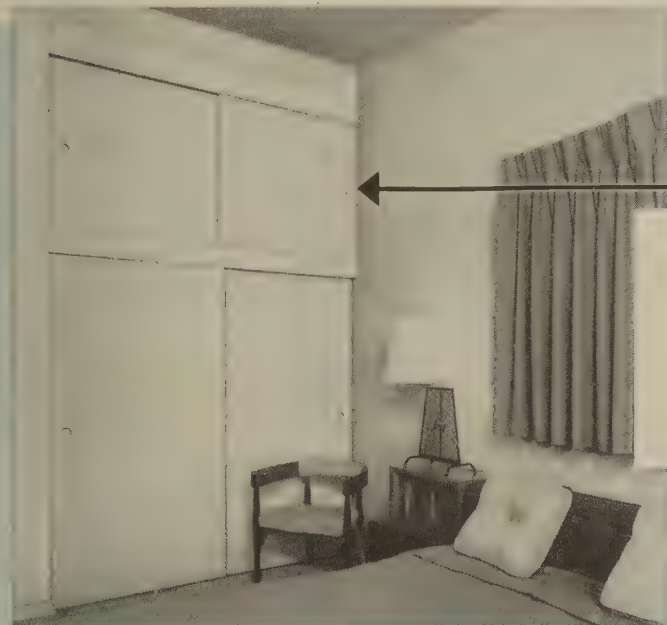
SOUNDLY ENGINEERED AND CONSTRUCTED FOR SILENT, TROUBLE-FREE OPERATION—35 years of manufacturing experience, a new basic design, the best materials for the product, and use of modern production techniques and equipment are combined to create smooth operating life-time Glide-All Sliding Doors.



● Glide-All Sliding Doors are the outstanding result of a modern approach to the builder's problem of supplying the demand for better living facilities in today's construction.

Hundreds of thousands of installations in all types of construction—luxury homes and apartments—modest, low cost homes and housing projects—and rapidly increasing use from coast-to-coast—are proving the advantages of Glide-All Sliding Doors. Architects, builders and home owners alike are sold on their modern, pleasing appearance... the unusual storage space they make possible, even in smallest rooms... their low cost and simple installation... and their quiet trouble-free performance over the years.

See Sweet's for complete details and "specs"



Glide-All, Jr. Sliding Doors are available in standard heights from 16" to 36"—in widths of 18½" to 36½"—a pair fits openings up to 72" wide. Other sizes available on special order.

* Glide-All Doors are regularly supplied unfinished—ready for painting. However, on special order, they are now available with factory applied prime coat, and also in attractive simulated wood grain finishes.

Glide-All Doors are produced in 5 modern plants across the Nation... available from distributors throughout United States and Canada • For complete information write plant nearest you

GLIDE-ALL SLIDING DOORS ARE A PRODUCT OF

WOODALL INDUSTRIES INC.

DETROIT 34, MICHIGAN

Meet the New Member of the Glide-All Family

GLIDE-ALL, JR. Sliding Doors

FOR WARDROBES, CLOSETS, CABINETS AND COUNTERS

A new, practical small door panel, complete and ready to install—saving time, labor and the expense of building "special" cabinet-size doors. They were designed and constructed to supply the increasing demand for handy storage space facilities in residential, commercial, institutional and industrial buildings.

Engineered and built like their popular "big brothers," Glide-All Sliding Doors, they are made of tough, durable Masonite Duolux panels reinforced with steel tubing. They are easily installed, and slide smoothly on specially molded Nylon friction-free adjustable glides.

You will want to use Glide-All, Jr. Sliding Doors in lots of places. See 1955 Sweet's for complete details.

Be sure to visit the
Glide-All Exhibit at the
N.A.H.B. Show, Chicago,
Jan. 16-20, Space 202-
203, Conrad Hilton Hotel.

CHICAGO, 3510 Oakton St., Skokie, Illinois
LAUREL, Miss., P.O. Box 673
NEW YORK, Glen Cove Rd., Mineola, N. Y.
SAN FRANCISCO, 1970 Cartoll Ave.
EL MONTE, Calif., 801 West Valley Blvd.



See America's
most advanced
line of
folding doors
NAHB
EXPOSITION
Booths 237-238



RA-TOX

Fashionfold Doors

bring old
and new homes
up to date

Capitalize on the trend to smart, open interiors. Fashionfold Doors provide maximum convenience...are woven of Northern Basswood in striking wide and intermediate narrow slat pattern. Remodeling costs less because doors are prefabricated, installed in minutes. Ideal for room dividers, between room openings and "open-wide" closets. Write for free folder 706A.

THE HOUGH SHADE CORPORATION
1021 Jackson • Janesville, Wisconsin

IN CANADA: Canadian Ventilating Shades, LTD.
481 Reid Street, Peterborough, Ontario



Fashionfold Doors save wall and floor area once wasted by swinging doors.

TECHNICAL PUBLICATIONS

Technical literature listed in these columns may be had by writing the manufacturer directly, or by checking and mailing the convenient numbered coupon found on p. 260.

- 101. TOOLS.** The DeWalt Power Shop. DeWalt, Inc., Dept. HH, Lancaster, Pa. 20 pp. 8 1/2" x 11"

Photographs and detailed explanations of the hundreds of woodworking jobs done by this line of radial arm multipurpose woodworking machines, and a listing of available accessories, with price list.

- 102. HARDWARE.** Leigh Building Products, Div. of Air Control Products, Inc., Dept. HH, Coopersville, Mich. 14 pp. 8 1/2" x 11"

A condensed catalogue of the metal building products and hardware made by Leigh.

- 103. STONE.** Holiday Hill Stone. Texcrete Co., Dept. HH, 6931 Clinton Dr., Houston, Tex. 6 pp. gatefold. 8 1/2" x 11"

Color photographs and data on this high-pressure molded stone. Complete information on sizes, shapes and colors.

- 104. ROOFING.** Roofing—Then and Now. Twinsburg-Miller Corp., Dept. HH, P.O. Box 207, Twinsburg, Ohio.

A lighthearted, but factual, cartoon booklet on the history of roofing, for entertainment



and/or education of anyone interested in the evolution of today's roofing materials and methods.

- 105. KITCHENS.** Easy Living Kitchens. Universal-Rundle Corp., Dept. HH, New Castle, Pa. 12 pp. 8 1/2" x 11"

Planning and installation details, specifications and sizes of this kitchen line.

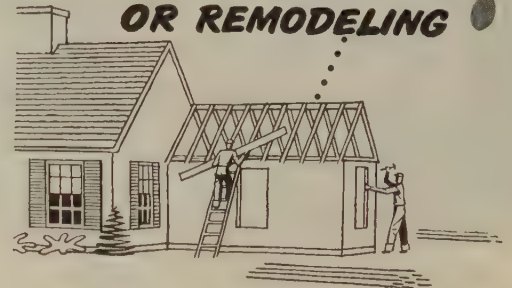
- 106. HEATING.** Pipe and Fittings. Williamson Heater Co., Dept. HH, 3500 Madison Rd., Cincinnati 9, Ohio. 32 pp. 8 1/2" x 11"

An all-inclusive catalogue of ductwork and fittings for heating or cooling systems.

- 107. TILE.** Vina-Lux Vinyl Tile and Duraco Greaseproof Tile. Uvalde Rock Asphalt Co., Dept. HH, Frost Bank Bldg., San Antonio, Tex. Both 4 pp. 8 1/2" x 11"

continued on p. 252

Adding a Room? OR REMODELING



ELECTREND ELECTRIC HEATING SYSTEM

Exclusive Circulating Method
Provides Uniform Heat

AT MODEST COST!

Electric heating is already proving highly successful in thousands of homes. ELECTREND offers you the most satisfactory method for heating added rooms...or for augmenting inadequate heating plants in older homes. Why wait? Get the facts—then recommend ELECTREND. You'll gain more satisfied customers; show a higher profit on every job!

CHECK THESE ELECTREND ADVANTAGES

- Pulls warm air from ceiling, reheats and circulates into room.
- Simple, low-cost installation. No special skill required.
- Outstanding safety. UL approved.
- Completely automatic. Thermostatically controlled in every room.
- Long years of satisfactory performance. No maintenance—annual checkups eliminated.
- 100% clean. Customers appreciate absence of ashes, soot, smoke, fuel.



Exclusive Electrend Circulating Principle

The exclusive ELECTREND system pulls warm air from ceiling, reheats and circulates into room through register at floor level. This method gives more comfortable, uniform heat and represents a savings in operating costs. ELECTREND units have been designed for new construction or supplementary heating.

Write today... Free Literature
tells complete ELECTREND story!

Electrend

ELECTREND PRODUCTS CORPORATION
St. Joseph, Michigan

YOU CAN INSTALL ANY

BERNS



FAN IN JUST

MINUTES

AND EVERY ONE IS

GUARANTEED FOR 5 YEARS

For profit and performance, no other fan line offers you the advantages of Berns Air King. Actual, on-the-job records prove it takes only minutes, once the opening is made, to install any Berns Air King Built-In Ventilating Fan. Combine this man-hour savings with low initial cost and precision engineering that guarantees efficient, trouble-free performance . . . for a savings that's really worthwhile!

Your choice of 21 models to meet your every ventilation requirement exactly. All models feature:

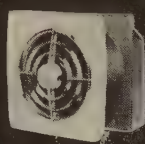
- ▶ Beautifully styled grills with center grill knob for easy removal
- ▶ Motor and blade mounted on 1 bracket—removable by loosening wing nuts
- ▶ Extra length "Break Off" Bolts to accommodate any wall or ceiling depth
- ▶ Exclusive packaging that does not require disassembly of inside or outside housing for installation.
- ▶ U.L. and C.S.A. Approval.



"TC" SERIES Low cost combined with truly economical installation for single story homes. Installs through ceiling by use of standard round duct. New pressure type blade. In models delivering 525 CFM and 750 CFM at fan discharge. Chrome or White Grill. Available with 3 Speed Control. List as low as **\$21.60**



"KF" SERIES Available for pull chain or fully automatic, wall switch controlled operation, provide maximum air delivery. White or Chrome Grills. Wall switch models have motor operated door. Pull chain models deliver 590 CFM and 800 CFM. Wall Switch models deliver 800 CFM. List prices from **\$27.55**



"WF" SERIES Outside hood incorporates shutter. Pressure-type blade keeps shutter wide open at all speeds. Wall switch controlled operation at a practical price. Available with 3 speed control. Chrome or White Grill. In models delivering 475 CFM and 600 CFM at Fan Discharge. List prices from **\$27.55**

BERNS MANUFACTURING CORPORATION

3050 North Rockwell Street, Chicago 18, Illinois



"CF" SERIES

Shallow, 3½" over-all depth, easy mounting in sidewall or ceiling. Aluminum, blower-type pressure blade maintains constant high air exhaust volume even in long ducts. Available with 3 speed control and necessary installation fittings. Chrome or White Grill. In models delivering 400 and 525 CFM at end of duct. List prices from **\$26.25**

NAHB SHOW Conrad Hilton Hotel BOOTH No. 365

SWEETS ARCH. FILES

SWEETS LIGHT CONST. FILE

28e
8e
8e

BERNS MANUFACTURING CORP., Dept. H
3050 N. Rockwell St., Chicago 18, Ill.

Please send me **FREE** Literature describing your Built-In Ventilating Fans.

Your Name

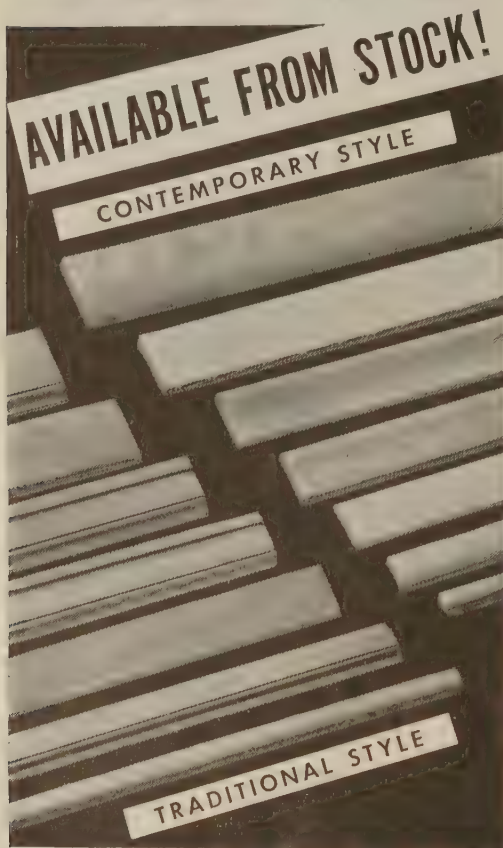
Firm Name

Address

City Zone State

Occupation

Save time and money with Roddiscraft HARDWOOD MOLDING AND TRIM



Now... Roddiscraft

stocks finest Birch, Mahogany, Oak
and Walnut trim

... ready when you want it!

WHY suffer delays and pay premium prices for made-to-order hardwood trim? Roddiscraft has the hardwood trim you need — ready and waiting in its coast-to-coast warehouses. Available in styles for every need and sizes for every purpose. Your dealer can deliver what you want immediately.

Roddiscraft molding and trim has excellent design and is precision-machined from select hardwoods. For convenience and economy, door and window trim is available in packages, cut to size ... or by the lineal foot.

Birch, Mahogany, Oak and Walnut trim is kept in stock. Trim in other hardwoods is available on special order.

For complete information on Roddiscraft hardwood trim, see your dealer or mail the coupon below.

Roddiscraft

WAREHOUSES IN PRINCIPAL CITIES

RODDISCRAFT, RODDIS PLYWOOD CORP.
Marshfield, Wisconsin



Please send me full information on Roddiscraft hardwood trim.

Name
Firm Name
Address
City Zone ... State

TECHNICAL PUBLICATIONS

Continued from page 248

108. **PLASTICS.** How to Build with Rippolite. Rippolite Plastic Products, Inc., Dept. HH, 3910 Cohasset St., Burbank, Calif. 8 pp. 5 1/2" x 8"

Installation details, physical properties, and specifications for this line of reinforced corrugated plastic panels.

109. **HEATING.** Shaw Panel Baseboard Radiators. Shaw-Perkins Mfg. Co., Dept. HH, 201 E. Carson St., Pittsburgh 19, Pa. 12 pp. 8 1/2" x 11"

Length and ratings of baseboard radiators, roughing-in dimensions, assembly and mounting directions. Complete information for specifying and ordering.



110. **PLYWOOD.** Modern Magic. Associated Plywood Mills, Inc., Dept. HH, Eugene, Ore. 12 pp. 6" x 9"

Color photographs of plywood installations, application and finishing instructions.

111. **PLUMBING.** Cleanouts and Access Covers. J. A. Zurn Mfg. Co., Dept. HH, Erie, Pa. 32 pp. 8 1/2" x 11"

A pictorial presentation of hundreds of items used in drains and cleanouts, with suggestions for location of cleanouts, floor plans and installation drawings.

112. **PLASTICS.** Panelyte information booklets. St. Regis Paper Co., Dept. HH, 230 Park Ave., New York 17, N.Y.

A series of booklets on the high-pressure laminate, Panelyte, including one on installation, two on ideas on home remodeling with the product, and one devoted to guiding the trained applicator in custom installations.

113. **NAILS.** The Ardox Spiral Nail. The Steel Co. of Canada, Ltd., Dept. HH, Hamilton, Ont. 28 pp. 4" x 8 1/2"

Development of the threaded nail, statistical data and physical properties.

114. **AIR CONDITIONING.** Acme Flow-Temp Heat Pumps. Acme Industries, Inc., Dept. HH, 618 N. Mechanic, Jackson, Mich. 4 pp. 8 1/2" x 11"

Questions, answers and data on the well-publicized "weather machines."

continued on p. 256



Make sure you install the "proved unit" ... specify Incineror, the automatic, gas-fired incinerator.

For more than thirty years, homes by the thousands have eliminated messy trash and garbage areas with Incineror ... it's dependable and trouble-free.

Choose from a complete line of indoor and outdoor Incineror models.



Approved
by A.G.A.

WRITE TODAY
FOR DETAILS

INCINERATION DIVISION
BOWSER, INC. • CAIRO, ILLINOIS

HAKO
VINYL
Poly-krome

HAKO Poly-krome is now available in vinyl as well as asphalt with a brand new beauty, vivid colors and matchless quality. Long-lasting and durable, yet inexpensive to install.

HAKO
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HAKO
Coronet
"DUKE"

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"REGAL"

4 1/4" HAKO Wall Tile, with all the features and decor colors to please the most discriminating.

4 1/4" HAKO Wall Tile for the budget buyer. Has the famous CORONET cushion bevel. Color styled to please every housewife.

8 1/2" HAKO Wall Tile. Cuts actual installing time in half. A "giant", not only in size but also in tile color and beauty.

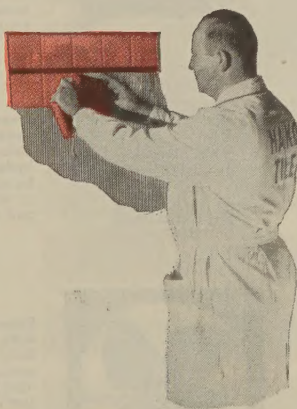


HEADQUARTERS-BOOTH 604
Hotel Sherman

BUILDERS...be sure to see them all... the greatest WALL and FLOOR TILE LINE ever



Don't fail to see them all . . . Hachmeister-Inc. wall and floor tile products . . . at this year's National Association of Home Builders Show. Used by outstanding builders everywhere. HAKO wall and floor tiles are inexpensive, yet durable. The economy of installation, the warm and gay color range and the desirable properties of HAKO tile will withstand the punishment of any growing family in any section of the country. Be sure to visit the Hachmeister trained representatives at Booth 604. They will welcome you . . . demonstrate each product to you . . . and show you how HAKO tiles can reduce your building costs.



Again this year, Joe Rihn will be giving continuous demonstrations on how easy it is to install HAKO floor and wall tile in Booth 604.

HACHMEISTER-INC.
Pittsburgh 30, Pa.
Dept. HH-1-55

- ☐ Please send me free information on HAKO floor tile, wall tile and adhesives
☐ I would like to see your representative

Name.....

Address.....

City.....Zone.....State.....

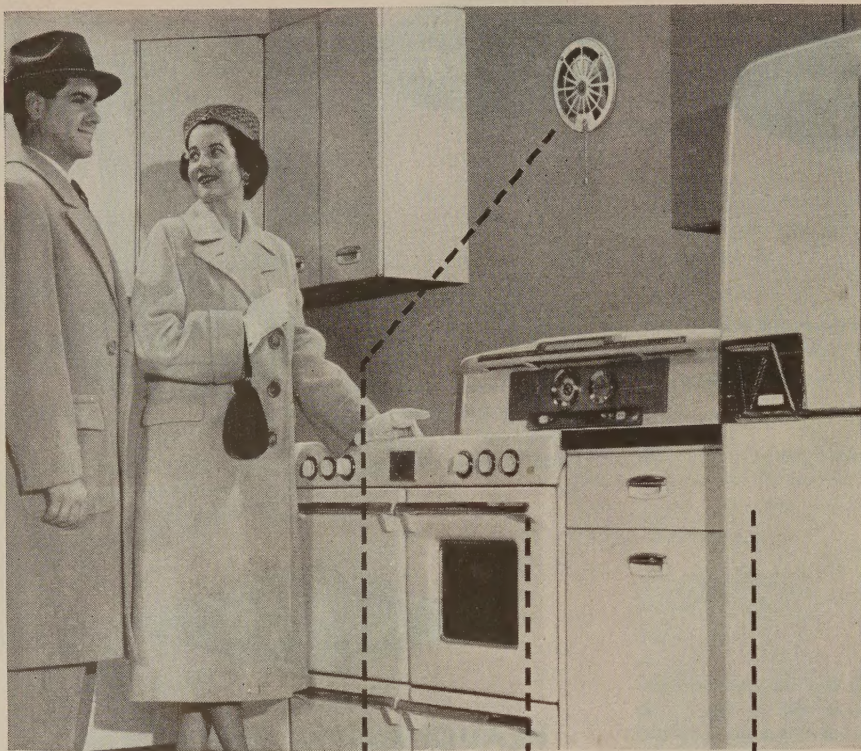


SINCE 1903

HACHMEISTER-INC.

PITTSBURGH 30, PA.





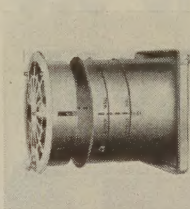
NAMES that help make SALES

Certainly, today's homes must be equipped with modern appliances. More importantly, though, these appliances should carry the selling power of name plates that stand high in the experience of home buyers.

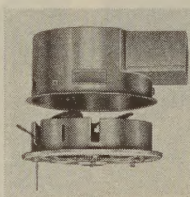
When you point to the Emerson-Electric name plate on kitchen ventilators and attic fans, you are pointing the way to an easier sale. For here's a name that the public has long accepted as the outward sign of inward quality. It's a name that has meant first in fans for more than 60 years of demonstrated, long-lasting satisfaction. Use the Emerson-Electric name to help you make sales!

There's a built-to-last Emerson-Electric unit for every home use.

Send for Ventilating and Attic Fan Bulletin No. 1001. THE EMERSON ELECTRIC MFG. CO., ST. LOUIS 21, MISSOURI.



Emerson-Electric Ventilator with Wall Sleeve, easily installed in brick, masonry or frame walls. Blends with modern kitchen equipment.



Emerson-Electric Ventilator for Ceiling Installation. Can be supplied with or without sleeve and outside grille.



Emerson-Electric Attic Fans—Build cool summer comfort right into every home, economically. Five blade sizes, 24" to 48".

Emerson-Electric
of St. Louis



TECHNICAL PUBLICATIONS

Continued from p. 252

- 115. HARDWARE. Art in Iron. Artcraft Ornamental Iron Co., Dept. HH, 730 E. Hudson St., Columbus 11, Ohio. 40 pp. 8½" x 11"**

Photographs and drawings of ironwork, both traditional and contemporary.

- 116. WOODWORK. Wood Frames and Windows. Architectural Woodwork Institute, Dept. HH, 332 S. Michigan Ave., Chicago 4, Ill. 8 pp. 8½" x 11"**

Third in this series of brochures on various phases of architectural woodwork.

- 117. ROOFING. Copings and Gravel Stops. Aluminum Co. of America, Dept. HH, 1501 Alcoa Bldg., Pittsburgh 19, Pa. 16 pp. 8½" x 11"**

Four newly designed roofing accessories to protect the vital joint between roof and wall. Details, drawings and installation instructions.

- 118. STANDARDS. Building Better from Modular Drawings. By William Demarest Jr. An HHFA publication, available from the Supt. of Documents, US Government Printing Office, Washington 25, D.C. 24 pp. 8½" x 11". 20¢**

The modular story, told in cartoonlike drawings and simple text, to introduce construction foremen and superintendents to modular construction.

- 119. ROOFING. Yorkmont Roofing Slate. Yorkmont Slate Co., Inc., Dept. HH, Granville, N.Y. 4 pp. 8½" x 11"**

Colors, standard sizes and specifications.

- 120. PLASTICS. How to Apply Consoweld 10. Consoweld, Dept. HH, Wisconsin Rapids, Wis. 8 pp. 8½" x 11"**

Full installation instructions for applying this laminated plastic surfacing to counter tops or walls. Photographs of each step.

- 121. HEATING. Heating and Cooling Equipment. The Coleman Co., Inc., Dept. HH, Wichita, Kan. 32 pp. 8½" x 11"**

Full line of the heating and cooling equipment made by Coleman, with specifications and details.

- 122. WINDOWS. Announcing the New Fenestra WindoWall. Detroit Steel Products Co., 311 Griffin St., Detroit 11, Mich. 4 pp. 8½" x 11"**

These catalogue sheets show types and sizes of six- and nine-light Fenestra steel *WindoWall* units. Furnished with or without ventilators, the new units may be glazed with stock-size double-pane glass, double-strength or plate glass. Installation details for brick-veneer and frame construction are illustrated.

**architect-designed
pre-fab prices!**

wall frames

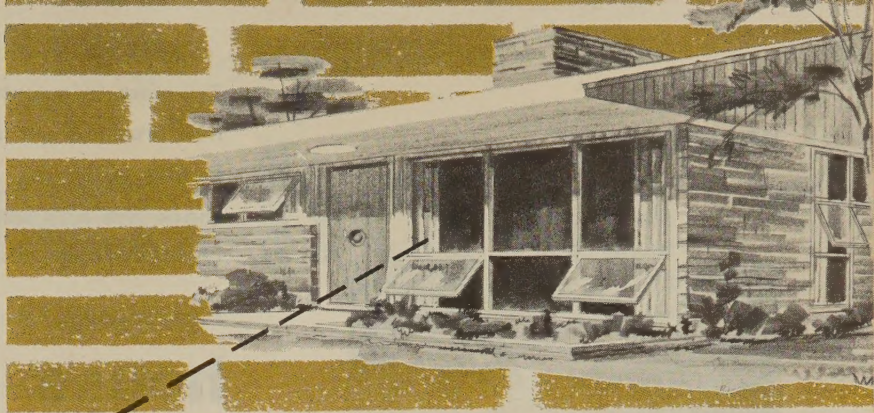


Designed by *Richard Pollman*
Built by Richard P. Pollman Building Co., Detroit, Mich.

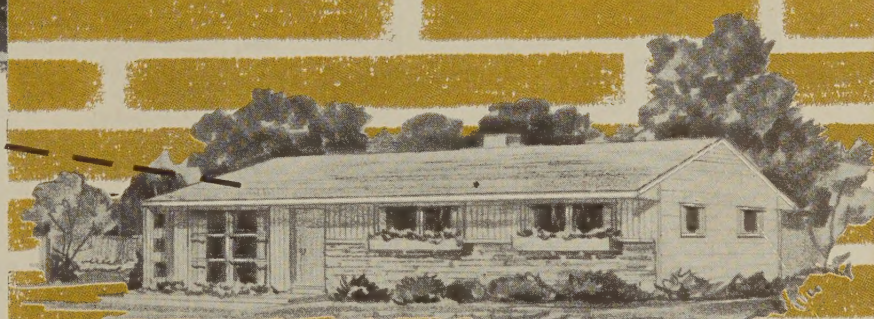
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contemporary look
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Now, the industrial revolution in building brings your homes custom-quality, architect-designed windows at mass production prices . . . to sell your homes faster. Larger see-through glass areas bring the outdoors inside. Designed for insulating glass, either Thermopane or Twindow, climate controlled regardless of the calendar with the Fabrow Rotoventilator. 3 architect choice styles, 21 sizes in handsome Douglas fir for every advanced building design in '55!

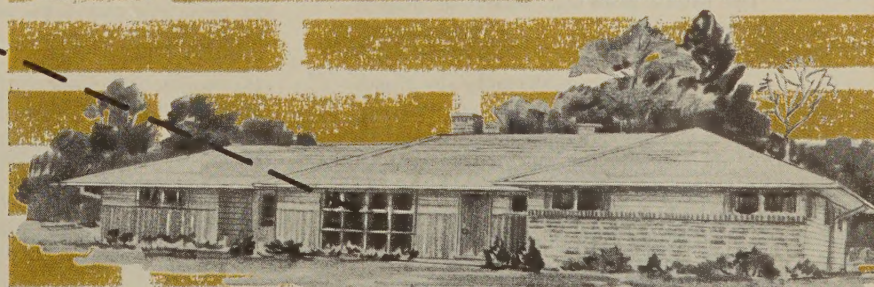
*Pre-Fab homes range from approx. \$9,990 to \$26,000.



Inland Homes Corp., Piqua, Ohio
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Thyer Mfg. Corp.
Toledo, Ohio, and Collins, Miss.
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International Homes, Youngstown, Ohio
With Fabrow Window Wall Frames
Approx. \$26,000

NEW PRODUCTS



p. RANGE HOOD HAS EXTRA DEPTH to reach front burners, in copper or aluminum finish

Kitchen odors and greasy vapors are scooped up easily by *NuTone's* new range hood, then washed out of the house by a powerful centrifugal fan mounted in the cabinet above the range. The hood extends 19" out over the range, and is 7" deep. Both a 36" and a 42" wide model are made.

Besides the regular white baked enamel finish, *Nutone* offers the hood in an anodized copper or aluminum, and in stainless steel for special installations.

Price: Enamel, 36" model: \$34.50; copper or aluminum: \$49.50; stainless steel: \$59.50 (Fan \$35.75 extra)

Manufacturer: Nutone, Inc.
Madison & Redbank Rd.
Cincinnati 27, Ohio



q. EXTERIOR MASONRY PAINT "breathes" vapor but closes pores to actual moisture

All of the advantages of latex paint go outdoors with Glidden's *Spred Glide-On*, a free-flowing polyvinyl acetate emulsion that can be brushed or rolled onto any exterior masonry surface. Like its indoor predecessor, *Spred Glide-On* dries to the touch within ½ hour, has no lap or brush marks, and equipment washes clean in warm soapy water.

The paint's molecular separation permits interior moisture vapor to pass readily through without impairing adhesion, but when wetted, as by rain, the molecules absorb moisture and expand, joining together to form a watertight protective finish. It can be applied directly over concrete, stucco, even asbestos shingle, and is not discolored by hydrogen sulphide, the industrial city curse of lead-base paints. It is available in 12 primary colors and 18 intermix shades.

Retail price: \$6.10 per gal.

Manufacturer: The Glidden Co.
Berea & Madison Aves.
Cleveland 2, Ohio

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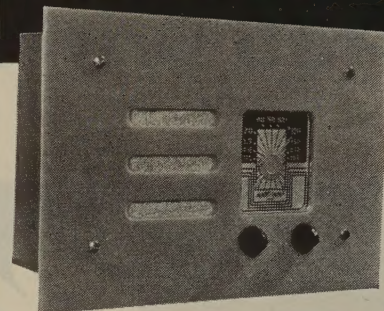
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